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### Railway Wages Award

THE increase of 4s. a week for railway salaried and conciliation staff awarded last week by the Railway Staff National Tribunal and already accepted by the British Transport Commission will, if accepted by the three railway trades unions, cost the Commission some £5,500,000 in a full year. Details of the Tribunal award, which affects some 443,600 staff, are given on another page. It was being examined as we went to press by the unions concerned, the National Union of Railwaymen, the Associated Society of Locomotive Engineers & Firemen, and the Transport Salaries Staffs' Association, whose first reactions were reported to be unfavourable. These had asked for an increase of 15 per cent on all wages and salaries of their members, which would mean additional payments varying from 17s. 6d. a week for the lowest paid adult male railwayman, to something over 25s. at the other end of the scale; and the total annual cost to the Commission would have been £31,000,000. The claims were made by the unions last July and were discussed with the Railway Staff Conference in August; at a further meeting with the unions in September the Railway Executive rejected the claims, which then were submitted to the Railway Staff National Council and, no agreement being reached, were referred to the Railway Staff National Tribunal. Giving evidence before the Tribunal Mr. W. P. Allen, Chief of Establishment

& Staff, British Transport Commission, said last month that the Commission cannot meet any further rise in wages without further increases in charges to meet the additional cost involved. With other costs increased, and with revenue from carrying activities for the first three quarters of this year only some £20,000,000 above last year's figure, of which some £16,000,000 is in respect of British Railways, the addition even of £5,500,000 a year to the Commission's outgoings must necessitate an appreciable increase in railway freight or passenger charges. This by adding to the cost of living, a rise in which was one of the arguments in favour of their claim put forward by the unions, will ultimately react against the railwaymen concerned, apart from the adverse effect on the national economy, particularly at a time when exporters are endeavouring to prune all possible costs to meet increasing competition.

### The United Railways of Havana Sold

BY taking over the United Railways of the Havana & Regla Warehouses Limited the Cuban Government has brought to an end their 55-year British ownership. The deed of sale was signed in Havana on December 1, when the purchase price of \$13,000,000 was paid. The company is released from paying all Cuban taxes on the transaction and the Cuban Government has assumed all the company's liabilities in Cuba up to the end of November. In sterling the sale proceeds total £4,695,807. In 1949 the Cuban Government appointed a receiver, or an interventor, to conduct the affairs of the undertaking in Cuba, which by that time could not pay its bills and was owed large sums by the Government and this intervention continued to the end. The railway consists of some 1,300 miles of line, predominantly standard gauge, serving central and western Cuba and connecting with the United States-controlled Consolidated Railroads; its principal traffic is sugar, tobacco and fruit. The difficulties which have beset the railway during the past twenty years were explained in our May 9, 1952, issue, when the hope was expressed that the change of Government in Cuba would lead to a satisfactory solution.

### Summer Punctuality Maintained

THE four weeks ended September 5, though they do not embrace the August bank holiday weekend, cover some of the busiest holiday traffic weeks of the year. It is satisfactory that with faster passenger train schedules this summer, making more exacting demands on locomotives and crews, the improvement in British Railways passenger train punctuality over 1952, which was seen earlier in the summer, was maintained. Of steam-hauled express trains, 46.9 per cent arrived on time during the four weeks, against 44.5 per cent during the corresponding period last year, and 69.5 per cent arrived within 5 min. of booked time, against 66.5. With electric expresses, only 65.8 arrived punctually, compared with 67.8 in 1952, and 90.7 arrived 5 min. late or less, compared with 92.2—still a very high proportion. Heavy weekend traffic in the Southern Region seems to have been a principal cause of delays to electric expresses during this period. These results are encouraging, and, bearing in mind the high level of mid-week punctuality resulting in the overall figures, go far to justify the policy of increasing express train speeds.

### Overseas Railway Traffics

PERUVIAN CORPORATION gross receipts for October were soles 10,384,000 and bolivianos 49,834,000, an increase of S. 1,287,000 and Bs. 31,160,000 over the corresponding amounts for 1952. The aggregates for the four months to October, 1953, were S. 41,728,000 and Bs. 186,077,000 compared with S. 37,947,000 and Bs. 66,080,000 last year. The Peruvian remittance rate was about S. 48.40 to the £, against S. 43 in October, 1952. The Bolivian official remittance rate was Bs. 537.08 to the £ for restricted amounts (but none received during October) against 169.61 in October of the preceding year. Costa Rica traffics for October were colones 1,326,000 com-

pared with C. 1,297,000 in 1952; the aggregate receipts from July 1 were C. 5,901,000, against C. 5,361,000 for the corresponding four months of 1952. The exchange rate was C. 15·87 to the £. Antofagasta (Chili) & Bolivia Railway receipts for the ten months ended October 30 were £4,243,530, an increase of £61,189 over the first ten months of last year. Currency receipts were converted at pesos 348·60 to the £ (371·56 in 1952) and at bolivianos 538·14 (169·61).

### Railway Building in India

**T**HE new railway construction now in progress and recently completed in India recalls that borne on the crest of the world-prosperity wave, Indian railways were encouraged by the Government twenty-five years ago to embark on widespread expansion. The North Western Railway, already the largest in the sub-continent, prepared a construction programme entailing the completion each year of 300 miles of new line and bridging of large rivers; some of the new lines were in difficult country. Three survey divisions completed the survey of 3,000 miles of alignment, including alternatives, in the first three years of the programme. The abnormal quantity of large bridge-work included a 3,000-ft. bridge over the Indus at Kalabagh, and other big bridges over the Jhelum between Shahpur City and Khushab, the Chenab near Chiniot, and the Ravi near Narowal. Only one or two of the bridges were built by big contractors, the other work being done by small concerns requiring close supervision. Moreover, the work was spread over some 200,000 sq. miles. Within a very short time over 40 officers had been appointed for the survey and construction, not including the staff of the Deputy Chief Engineer, Bridges, engaged on steelwork erection—such as the Reond Steel arch—and on refabricating the large girder spans required.

### Abandonment of Projects

**W**HEN the first full year of work had been completed, India was hit by the world slump, and only works then in hand were continued and subsequently completed at a slower tempo. Nevertheless, over 300 miles of new line were built and opened for traffic within the first year according to programme, and all the big bridges then or subsequently completed. The lines built under this ambitious programme which was by no means purely strategic in conception, were mainly chord connections between the Punjab and North West Frontier lines—these included the bridges over Jhelum and Chenab rivers—but there were also the 100-mile narrow gauge extension to Fort Sandeman in Baluchistan, a long loop line in Bahawalpur State and the 100-mile Kangra Valley railway through difficult country from Pathankot to Jogindernagar on the road to Kulu, the subject of editorial comment in our issue of March 20, 1952. Among the lines surveyed but not subsequently constructed were one from Havelian, near Rawalpindi, through Abbottabad to the Kashmir border in the Jhelum valley, and another from Bannu up the Tochi Valley in Waziristan, both through mountainous country.

### Restoration of the Indonesian Railways

**L**IKE other railways in enemy-occupied countries during the war, those of Indonesia will have incurred heavy expenditure before their equipment is up to prewar standards and scales. Elsewhere in this issue a description is given of some of the steps being taken to re-equip the system with motive power and rolling stock. Certain of the lines which were out of service for more or less protracted periods have begun to operate again, and by the end of September 1950 complete service had been restored between Djakarta, formerly Batavia, and Surabaya, the two chief cities of Java. It is understood that all railway lines in Java and Sumatra have been restored to traffic. The speed of trains still is below that obtaining before the war because of restrictions imposed by incompletely restored track and structures. Passenger and goods traffic show an upward trend, but are still very much below prewar levels because of shortage of

motive power and rolling stock, though much has been done to overcome the shortage by the supply of new steam and diesel-electric locomotives, and rolling stock. The administration also contemplates the introduction of diesel railcar services. More rolling stock is needed even after completion of the present orders before the railways attain their prewar efficiency.

### Electric Baggage Vans

**W**HEN the Lancashire & Yorkshire Railway electrified its line from Liverpool to Southport and Crossens in 1904, the rolling stock provided included two special cars—a third was added subsequently—to convey baggage and operate on a regular schedule independently of the passenger trains. In the same year the North Eastern Railway electrified its North Tyneside line and put into service two electric parcels vans, somewhat similar to those of the L.Y.R.; the North Eastern Region now has three such vehicles running on both the North Tyneside and South Tyneside electric lines, but of later construction. We cannot call to mind any other vehicles of this type on a British electrified line, but overseas examples include the six parcels cars on the Melbourne electric suburban services of the Victorian Railways. One of the original Liverpool-Southport cars was destroyed in the war and the remaining two have now been withdrawn; the London Midland Region has just replaced them by vehicles converted from electric passenger stock of L.M.S.R. construction, as described elsewhere in this issue.

### Messina Straits Bridge

**T**HE double-deck rail-and-road suspension bridge over the Straits of Messina, construction of which has been proposed with American and Italian capital, ultimately could not fail to benefit the Italian economy and the Italian State Railways by improving the outlet from Sicily for citrus fruit and other products, as the existing wagon ferries between Villa San Giovanni on the mainland and Messina in Sicily in recent years have proved inadequate for the traffic in the fruit crop season. The bridge also combined with the extension of railway electrification in Sicily and completion of doubling of the electrified line northwards to Naples, would go far to improve the transit time for fruit wagons between Sicilian and British stations via the Dunkirk/Dover or Zeebrugge/Harwich train ferries. The bridge would take about seven years to build at an estimated cost of £30,000,000. Running between Villa San Giovanni and a point north of Messina at a height of 150 ft. above the sea, it is planned to be over a mile long, with two railway tracks on the lower deck. The supporting cables would be fixed to two piers built in the sea bed, where the maximum depth of water below the bridge is 360 ft.

### Palletisation in Switzerland

**T**HE Swiss Federal Railways believe that there is still a large potential demand for further development in the use of pallets. It is said that in Swiss conditions handling and transport from the time of manufacture until products are in the hands of the consumer add 50 per cent to the cost of goods. There is, therefore, no doubt that the intelligent application of palletisation can be of great value to the general Swiss economy, apart from the immediate saving to individual manufacturers and traders. Extension of the principle must depend largely on making more traders "pallet conscious," and the Swiss Federal Railways are playing their part in this respect, as shown in an article elsewhere in this issue. From their own pool they are prepared to lend pallets and fitments to traders to enable them to carry out experiments in palletisation in their own warehouses. The most striking development is the pallet exchange scheme operated in connection with smalls traffic, with its considerable advantages both to the trader and the railway. In accordance with the practice in other countries, the use of pallets is restricted to Swiss internal traffic. It may be hoped that one day it will be possible to extend the advantages of palletisation to the international field.

### Interference Problem with 50-Cycle Traction

WITH the introduction of d.c. electric traction arose the problem of preventing unwanted interference with telegraph and telephone circuits, then often worked on earth return, and the more serious electrolytic action tending to corrode gas and water mains. In Great Britain strict official regulations as to voltage drop provided a remedy, at least for the worst of such troubles. The coming of a.c. traction brought additional difficulties, and when it came to be applied under the low-frequency system on an appreciable scale, much research and expense were involved in finding a remedy for effects that were not only a nuisance but even a danger to the users of communications systems. The question of the suppression of harmful interference has since become more complicated. The adoption of industrial frequency for a.c. traction raised the whole problem afresh and elaborate investigations were undertaken in connection with the Annecy line in France, and the results published. We cannot see that television was considered then but electric services on the Lancaster-Morecambe-Heysham line here have been suspended for some hours on four days this week to enable Post Office engineers to investigate the problem of interference with television reception in the district alleged to have arisen since the line was electrified anew at 50 cycles. It will be interesting to know what new phenomena are being experienced along this route which may cause such disturbance.

### Named Locomotives in Switzerland

TWO electric locomotives of the Swiss Federal Railways, of the Ae 6/6 class, now carry names. Naming of locomotives was very common in the early days of railways in Switzerland, as, of course, elsewhere, and on some of the privately owned lines survived till comparatively recently. Indeed one steam locomotive with a name continued in work on the Le Locle-Le Brenets line up to a very short time ago. The less personal character of an electric locomotive compared with steam may account for very few having been given names. It has been felt in Switzerland, however, that it would bring the railways nearer to the public and encourage interest in them if the old once-popular custom were to be revived. The two locomotives mentioned, allocated to the Gotthard route, were formally named *Uri* and *Ticino* in September in Bellinzona to the accompaniment of speeches by Mr. H. Gschwind, General Manager, and leading railway and cantonal officials. Under the nameplates are placed the arms of the Uri, the oldest, and Ticino, one of the youngest of the Cantons. The speakers dwelt on the reasons for taking the step and the economic importance of the Gotthard route.

### Achievements in Victoria

AFTER the war the Victorian Railways launched an improvement plan, "Operation Phoenix," involving the expenditure of £80,000,000 in ten years. It was proposed to build or acquire 350 steam, diesel-electric and electric locomotives, 39 railcars, 290 all-steel coaches for main line and branch service, and 280 for suburban service, and 9,300 wagons and vans, and to carry out a large-scale new works programme. This ambitious project, which was endorsed by Mr. John Elliot when he investigated the Victorian Railways in 1949, was hampered by industrial disturbances, and shortages of labour, coal, materials and loan funds, but ultimately orders were placed for approximately 250 locomotives, 40 railcars, and 3,000 wagons, at a total cost of £20,000,000. Mr. R. G. Wishart, Chairman of Commissioners, Victorian Railways, has announced in a recent address that more than half the locomotives and most of the railcars and wagons have been delivered. The motive power on order comprises steam, electric and diesel-electric locomotives. The steam locomotives include 50 "N" class 2-8-2s and 70 "R" class 4-6-4s, from the North British Locomotive Co. Ltd. and 60 "J" class 2-8-0s from the Vulcan Foundry Limited. The English Electric

Co. Ltd. is supplying 25 electric locomotives, which are 2,400 h.p., of the Co-Co wheel arrangement, and the 26 1,500 h.p. diesel-locomotives are of Clyde-General Motors manufacture. The diesels so far delivered are running an average of some 3,000 miles a week. Two steam locomotives, one of the new "R" class, are now fitted with pulverised fuel equipment obtained from Germany and it is hoped to convert many more to pulverised fuel burning. When this is achieved, the railways will be largely independent of outside sources of fuel supply. The seriousness of the fuel problem was stressed by Mr. Wishart when he said that for a long time past they had not been able to obtain enough Maitland (New South Wales) coal even for the locomotives hauling the famous Melbourne-Albury "Spirit of Progress."

The most important single work in hand is the electrification, doubling, and regrading of the Gippsland line to enable it to handle the brown coal traffic originating from the open cast mines in that part of the State. It is hoped that electrification of the first section from Dandenong to Warragul, 43 miles, will be completed by the end of the year.

Although there has been a slight decline in passenger traffic, nearly 500,000 passengers are carried a day, and substantial improvements in services have been made. The Melbourne-Adelaide "Overland" express is now diesel-hauled and formed of new stock comprising roomette and twinette sleeping cars and very comfortable new day coaches. Journey times between Melbourne and such country towns as Warrnambool, Bairnsdale, and Mildura have been cut by an hour and more.

Goods now reach Adelaide or Sydney in less than 48 hr. from Melbourne, and steel, weatherproof containers now provide a door-to-door service between Melbourne and Sydney, incidentally avoiding thereby transshipment of goods at the break-of-gauge station, Albury.

Thirty seven-car electric trains are being built for the Melbourne suburban lines. The order is being shared by the Gloucester Railway Carriage & Wagon Co. Ltd. and two Australian firms, Martin & King Limited and Bradford Kendall Limited, the English Electric Co. Ltd., supplying the electrical equipment.

As Mr. Wishart points out, the railways have not passed on to their users anything like the full amount of the heavy increases in wages and material costs in recent years. Indeed, when the former Premier was introducing his 1952-53 budget, he said that only about half the increased costs had been passed on to railway users. In the six years from 1946-47 to 1952-53 expenditure has risen by more than £20,000,000, of which £12,500,000 alone has gone in wage increases. Coal, then less than £1 a ton, now costs up to £8 a ton, and is of inferior standard. In the same period rates and fares have been increased on five occasions, always falling far short of meeting costs. The total amount of new revenue from the higher charges since 1946-47 is just under £17,500,000, the difference of £2,500,000 representing the railway deficit as originally estimated for this year. Because of further increases in costs, however, this figure has now risen to £3,680,000, and to that tune the passenger or consignor is being rendered service for less than cost.

It is the policy of the present Government, Mr. Wishart explained, that where the railways are able to give efficient service they should carry the traffic offering. With all the new rolling stock now in service and the improved staff situation, they are now able to handle more traffic than they are carrying. Last year, compared with 1940-41, when operating results showed a small surplus, the railways handled an increase of 60 per cent in goods ton-miles with an increase of only 11 per cent in train miles, a sufficient indication of improved efficiency. Heavier train loads—up to 2,200 tons—are being hauled, and greater loads conveyed per wagon. Goods trains run at higher sustained speeds. More than 9,000,000 tons of goods a year are carried; 75 per cent of it represents low-grade commodities, but they produce only 45 per cent of the total revenue. The railways therefore seek to obtain a greater share of the higher class goods which can afford to pay higher rates. Liberal concessions, estimated at £600,000 a year, are made to country industries, whose raw materials and finished products are carried at substantially reduced rates.

## Japanese Railways Since the War

THE world economic depression of the early 1930s, which severely affected the revenues of the Japanese Government railways was followed by, and overlapped what was in effect a state of war, followed by declared war itself. Whilst in 1931-41 the system functioned successfully as the main artery of the economic life of the nation, the war with Britain and the U.S.A. started almost immediately to have its effect in deferred and neglected maintenance of track and rolling stock and air raid damage; materials such as coal ran short; and inflation made hard the lives and ultimately lowered the efficiency of railwaymen. At a time, nevertheless, at the end of the war, when the average industrial production was 35 per cent of prewar, the railways maintained 80 per cent of the prewar train mileage.

The Japanese National Railways *Yearbook of Information* for 1953 shows how postwar inflation resulted in a large deficit so that on June 1, 1949, the drastic step was taken of establishing the railways, hitherto Government-operated, as a public corporation under the name of the Japanese National Railways. The object was to operate the railway system as a business enterprise while maintaining as far as possible its role as a public utility. With a view to checking inflation, the new corporation carried out large-scale staff dismissals in September, 1949, in the face of considerable opposition from the trade unions. The number of employees dismissed was some 100,000. The economic recession badly affected the railways; but the outbreak of the Korean war in June, 1950, led to something of a war boom in Japan. As a result, the finances of the railways improved and in the 1950-51 fiscal year showed net receipts for the first time since the end of the war. This war boom, however, was followed by another slump about a year later; the economic depression continued to exist and was reflected in reduced railway receipts.

During the financial year 1952-53, the rise in the price of coal and other materials and in railway wages added much to outgoings which made necessary a 10 per cent increase in passenger fares and freight rates in January and February, 1953, respectively. As a result passenger revenue rose by 20 per cent and freight by 18 per cent compared with the previous year. Total revenue was 218,700 million yen and total expenditure 220,300 million yen, with a deficit of 1,600 million yen, partly because wage increases were retroactive to November, 1952, unlike the increases in charges.

Some principal figures for 1952-53 are given below. The tonnages and ton-mileages refer to metric tons.

Route mileage operated ... ..	12,367
Revenue passengers carried ... ..	3,427,461,285
Total revenue passenger mileage ... ..	50,008,374,713
Total revenue tonnage conveyed ... ..	143,714,266
Total revenue ton-mileage ... ..	24,062,273,405
Train mileage :	
Passenger ... ..	72,103,980
Mixed ... ..	10,207,169
Freight ... ..	67,990,379
Electric ... ..	38,225,222

Traffic generally, which has been on the upgrade since the first half of the year 1951-52, began to drop during the second half, and did not improve in 1952-53. Passenger journeys other than on season tickets declined, and the seasonal drop in goods traffic during the summer was particularly marked in the June-July period of 1952. In the late autumn of that year there was a coal strike lasting two months. As a result, railway coal stocks dropped to 400,000 tons in November from the necessary 500,000 tons a month, and caused a drastic reduction in services. This is reported to be the chief reason for the disappointing traffics of the 1952-53 fiscal year.

In March, 1953, a limited express, the "Kamome," was put into operation between Kyoto and Hakata, 412 miles, covering the distance in 10½ hr., a reduction of 3 hr. in journey time, and a remarkable timing for 3-ft. 6-in. gauge. The sum of 2,500 million yen was earmarked for the construction of new lines. Work on 24 lines was started simultaneously. Chief among other notable works were

the restoration of the Kyoto passenger station building, which had been destroyed by fire, and the commencement of work on the east side of Tokyo Central Station.

Electrification work on the Hamamatsu-Inazawa section (75 miles) of the Tokkaido Line was started in July, 1951, and was expected to reach completion at the end of the current year. Of this section, 68 miles between Hamamatsu and Nagoya were completed in July. The electrification of this section will effect a further cut in coal consumption and an improvement in passenger services. Power will be supplied from the two units of generators (25,000 kVa each), completed on the Shinano river in August, 1952, and also from another unit (25,000 kVa) made available in November of the same year. The maximum capacity of electric power for the electrified lines is 75,000 kW.

Some 400 passenger coaches were built including multiple-unit electric stock, and 700 rebuilt with steel bodies. No steam locomotives were built—which goes far to explain Japanese locomotive builders' ability to accept orders from overseas railways. The surplus steam locomotives, made available because of extended electrification, were put in service on non-electrified lines. Twenty-seven new electric locomotives were built. In addition to these, three main-line diesel-electric locomotives were constructed, the first of their kind in this country. These are stated to be the "DD50" class, used for both passenger and freight services on the Hokuriku main line, which has many grades and tunnels; usually two units are combined. They are of the BB type, 1,000 h.p. at one-hour rating and weigh 63 tonnes.

## Licensing of Road Passenger Services

DURING the development stages of the passenger transport industry in Great Britain, licensing was by vehicles and not by services, and in the hands of the local authorities with jurisdiction only over their own small areas; normally, licensing powers were held only by urban authorities, and many never exercised them. After the first world war, the idea that there should be some national and uniform control over public passenger transport by road received general acceptance, and eventually this was achieved by the Road Traffic Act, 1930, which established the present licensing system. After it had been in force for more than 20 years, the Minister of Transport, Mr. Alan Lennox-Boyd, appointed a committee in August, 1952, under the chairmanship of Mr. G. A. Thesiger, Q.C., to inquire into the operation of the licensing system in the light of present-day conditions and make recommendations. Evidence was submitted orally and in writing by interested bodies and persons, and the outcome is a 75,000-word report which lucidly surveys the position in a practical way, and moreover has been presented with commendable promptitude despite delays in the submission of memoranda, and the serious illness of a committee member and of the Secretary.

Briefly, the findings of the committee fully vindicate the present licensing system, which "viewed as a whole has worked well and continues to work well." On its own, a summary of the comparatively few changes proposed would give a misleading impression of the report, as its negatives are of major importance. It proposes no changes in the Traffic Areas, and advocates the retention of the present composition of the Licensing Authorities. Several suggestions are made, however, with the object of enabling "panel" members, appointed by the Minister from local authority nominees, to make a more valuable contribution to the proceedings. A welcome expression of opinion is that there is a case for speedier fare adjustments, once the need for them has been established. All branches of transport have suffered severely from the time-lag between a rise in costs of labour and material, and the grant of the necessary consent to adjust fares appropriately. It is recommended that fares and stopping places for trams and trolleybuses should be brought within the purview of the Licensing Authorities. To meet the admittedly unsatisfactory state of the law relating to the carriage of private parties on "special occasions," the committee recommends a new

form of licence to authorise the operation of contract carriages on which separate fares are paid. No changes are proposed in the licensing of public service vehicles.

Evidence produced by critics of the British Transport Commission has satisfied the committee that the commission's control of some passenger road transport undertakings has in practice materially affected the services provided for the public under the licensing system. The whole matter is surveyed in detail in paragraphs 148 to 181, constituting chapter VIII of the Report, and theoretically-possible courses are discussed in a way which should prove of great value in assisting the Minister in the exercise of his powers under Section 18 of the Transport Act, 1953, which enable him to require the B.T.C. to divest itself of controlling interests in bus companies. During the debates in Parliament, the Minister said that, although the Government "had not sought these powers with no intention of using them," he proposed to await the present Report before taking and decision. The report ably sets out the facts that the inquiry has revealed, but the committee makes no recommendation as the decision must involve considerations outside its terms of reference. An important section of the transport industry confidently expects that the Minister will proceed to exercise his powers of denationalisation at an early date, but should this prove to be the case, the decision will doubtless be made on broader issues than any contained in this report.

Competition between rail and road services and the progress of co-ordination are considered from the viewpoint of fact finding, but no recommendations are made for any changes in present procedure. One of the objects of the introduction of the licensing system was to eliminate wasteful competition, and the committee finds that this has been achieved as between road and rail. Much detailed co-ordination between road and rail has been effected, partly as a result of former railway company shareholdings in bus undertakings, but there has been no planned division of functions between the two forms of transport. In view of the great disparity between road and rail fares, the committee doubts whether anything further can be achieved without some form of common ownership. It observes that where B.T.C.-controlled bus companies operate services in competition with the railways (and there is no independent operator), the control of such competition previously exercised by the Licensing Authority has largely passed to the Commission, as the latter is unlikely to put forward applications for services which it regards as wasteful competition with the railways. Thus, the kind of objection of the former railway companies to some applications of their associated, but not controlled, bus companies, is no longer made against B.T.C.-controlled bus companies, but the committee does not find that the public has been affected adversely.

## Railway Freight Commodity Statistics

(By a Correspondent)

**A**N article on U.S.A. Railway Activities in the November 13 issue of *The Railway Gazette* mentioned freight commodity statistics as one subject which was handled systematically. Since the article was written the Bureau of Railway Economics, Association of American Railroads, has included certain commodity figures for 1952 in No. 37 of its annual statistical summaries. A succinct statement gives for each of 260 commodities the number of wagons originated, the tonnage originated and the gross receipts collected by the Class I railways. The tables convey a clear idea of the great scope of American railroading, as will be gathered from an inspection of a few entries.

The largest volume of traffic was turned out by mines and quarries. Bituminous coal mines filled 5,888,020 wagons with 346,187,000 tons, about 8 per cent more than the total freight train traffic originated on British Railways in 1952. The wagon load of 58.7 tons was almost up to the average capacity of the "gondolas" and "hoppers" used for carrying coal. In 1952 British Railways needed 15,738,000

wagons to load 170,800,000 tons of coal and coke—55 per cent of the U.S.A. bituminous coal forwardings—in 11.5 ton loads, 2 tons below the capacity of the average mineral wagon. The U.S.A. railways show separately 593,550 wagons as moving nearly 22,000,000 tons of coke. The wagon load of coke was 37 tons which earned \$126, compared with the revenue of \$197 from a wagon of bituminous coal. Anthracite coal wagon loadings numbered 568,490.

In spite of labour disputes besetting the steel industry, the U.S.A. railways hauled 1,703,170 wagons containing 107,427,300 tons of iron ore. At 63 tons the wagon load equalled the capacity of two of the 27 ton "tippler" wagons employed by British Railways for conveying iron ore. The large ore wagon produced a revenue of \$126, rather less than half the receipts earned by one of the 92,005 wagons which carried 1,021,000 tons of bananas, or about eleven tons apiece. The Illinois Central is the leading banana carrier by rail, having developed this profitable traffic through the port of New Orleans in a manner characteristic of American enterprise. In 1880 the railway hauled 22 wagon loads from the port; in 20 years forwardings grew to 8,000 wagon loads and in 1947 the Illinois Central set up an all-time record by carrying 52,750 wagon loads. Bananas are now the chief imported commodity handled by the railway.

At the other end of the scale comes an item of 14 wagons, each carrying 12 tons of live poultry and bringing in receipts of \$512. Dressed and frozen poultry occupied 10,333 wagons, holding 18 tons and earning \$668. There is a similar contrast between 63 wagons with 20-ton loads of "berries, fresh, not frozen," earning \$1,210 each, and 4,255 wagons with 28-ton loads of "fruits and berries, fresh, frozen," earning \$1,004. Rolling stock controls report that there is a constant and growing demand for refrigerators or other wagons suitable for the movement of frozen food commodities.

The American practice is to describe consignments under five short tons in weight as "less-than-wagonload" merchandise. This traffic was charged in 1952 at an average rate of \$37.76 per ton—the highest rate for any group of commodities, the lowest being \$2.9 for products of mines. The quantity railed was 9,309,750 tons, compared with 22,561,000 tons in 1947—a decrease of 58 per cent. The number of wagons used was about 3,695,000, or 9.7 per cent of all wagons loaded; in 1947 the percentage was 13.6 and in the prewar years 1939 it was 23.1. Forwarding agents, who collect "smalls" and despatch them in full wagon loads, cannot have diverted much of the lost tonnage as "forwarder traffic" in 1952 amounted to 5,170,160 tons, only 430,000 tons over 1947. The Railway Express Agency increased its "less-than-wagonload" forwardings some 16 per cent, but that was largely the result of new restrictions on the size and weight of parcels sent by post.

So far the U.S.A. railways have been no more successful in checking the decline of merchandise carryings in small lots than British Railways have been in stopping the downward trend of their high-rated traffic. Oddly enough, in the 41 weeks to October 10, 1953, the U.S.A. railways suffered a further loss of 4.2 per cent of the wagon loadings of "smalls," while in 40 weeks to October 4 British Railways forwarded 4.1 per cent fewer wagons with merchandise and livestock. The average load of our wagons was 3.8 tons, so that a large proportion of the 9,879,000 wagons forwarded would have been classified as carrying "less-than-wagonload" traffic in the States. It will be interesting to see whether the similarity in the October position on the two railway systems continues to the end of 1953.

**EAST LONDON LINE TO RECEIVE "F" STOCK.**—The East London Line service of London Transport is now worked with four-car units of reconditioned 1920 "F" stock in place of the former 1910-14 District Line stock. The changeover has marked the disappearance from service of the last of the stock with hand-worked doors, except for the special Earls Court-Olympia trains. Other reconditioned "F" stock has been operating for some time on the Metropolitan Line.

## LETTERS TO THE EDITOR

(The Editor is not responsible for opinions of correspondents)

### Branch Lines in North London

December 6

SIR,—The British Transport Commission proposal to discontinue the recent shuttle passenger service between Finsbury Park and Alexandra Palace is not as surprising as the decision not to proceed with the electrification of this line and to connect it to the tube system, and the fact that as many as 700 passengers daily use the existing steam service.

Many local services convey fewer, and this branch is poorly placed, as most passengers must change at both Finsbury Park and Kings Cross.

Its scope might be widened by making season tickets and return tickets, including early morning returns, available on the local buses, at those times of the day (10 a.m. to 4 p.m. and after 7.30 p.m.) when there are no trains. A link up with the tube would alter the situation. Electrifying an existing line is considerably cheaper than building a new one.

The estimated cost of doubling the Finchley-Edgware branch is believed to have contributed to suspension of work on this project. But why double? With modern equipment the single line branch from Wellington to Johnsonville in New Zealand carries an electric train every twelve minutes in both directions.

Yours faithfully,

R. G. R. CALVERT

10, Bolton Avenue, Windsor

### Preserving Historic Locomotives

December 4

SIR,—There has never been more interest in the historic aspects of our railways than today. This is revealed by the appeal of films like "The Titfield Thunderbolt" and by the success of exhibitions like the extremely fine Royal Journeys Exhibition. We have only one historical locomotive of really early design capable of running under steam in the old *Lion*, which is too valuable to be used often.

A suitable small locomotive nearing the end of its useful life could be rebuilt comparatively cheaply to the general semblance, say, of a loco of about 1840. Such a rebuild was successfully performed in Switzerland for the railway centenary there a few years ago. The engine would be available for occasional film work and could be a great success with a train of period coaches at holiday times on lines such as the North Wales coast line.

Yours faithfully,

WILLIAM B. STOCKS

22, Heatherfield Road, Marsh, Huddersfield

[Reconditioning and rebuilding old locomotives and running them in steam is very costly, and it is doubtful whether the expense of adopting this suggestion could be justified, apart from traffic considerations.—Ed., R.G.]

### Publications Received

*Jahrbuch des Eisenbahnwesens (Railway Annual)* 1953: 256 pages, 11½ in. × 8½ in. Fully illustrated by photographs, diagrams and maps. Issued under the direction of Berthold Stumpf, Frankfurt (Main) and published by Carl Röhrig Verlag, Cologne and Darmstadt. D.M.7.30.

This well-produced annual is in its third year and contains articles on the International Railway Union by Monsieur G. Harrand, the possibility of setting up a common European railway publicity service by Signor G. A. Tronco, the British railways since nationalisation by Mr. C. E. R. Sherrington, the standard European freight wagon by Herr R. Körner, diesel vehicles of the Bundesbahn by Herr G. A. Gaebler, maintenance and purchase of rolling stock on the former South-West German lines by Herr G. Rebberger, beauty of design in locomotive construction by Herr W. Zeeden, the gauge question in Indonesia by Mjr. S. A. Reitsma, construction and mechanisation of freight yards by Herr Karl Schwartz, Cologne Central Station and the question of town planning by Herr W. Grossart, the question of railway passenger traffic rates and their social and political consequences by Herr W. Vogel, the organisation of the work in management and executives offices by Herr C. Couvé. There is an introduction and first article on the German Federal Railway in 1952 by the General Editor, Herr B. Stumpf. Each article is by an authority on the subject and deals in an in-

formative way with the questions involved. The work is of special value to anyone interested in transport in Germany.

*Railway Steel Topics*, Vol. 2, No. 1, Summer, 1953, Sheffield. The United Steel Companies, Limited. 11 in. × 8½ in. 43 pp. Illustrated. The two purely railway contributions published in this number are "Some Notes on Bridge Works on the North Western Railway of India," by P. S. A. Berridge, formerly Deputy Chief Engineer, Bridges, on that railway, and "The Balancing of Reciprocating Masses of Two-cylinder Locomotives," by R. Lean, formerly Chief Mechanical Engineer, Madras & Southern Mahratta Railway. Mr. Berridge shows how, through reduction in the discharge of several great rivers as a result of widespread irrigation, many big N.W.R. bridges were shortened, some by 50 per cent or more. The girder-work thus becoming spare was re-used in railway or road bridges subsequently constructed or strengthened. With weights of locomotives increasing by nearly 135 per cent, much strengthening was required. The methods adopted for the removal of some of the girders from very high piers were most ingenious. Until some 25 years ago, the accepted practice was that two-thirds of the reciprocating—as opposed to the rotating—masses in locomotives must be balanced. This practice was then challenged by the civil engineers as harmful to bridges and track, and it was decided by the M. & S.M.R. administration to test the balancing of existing metre- and broad-

gauge engines. Mr. Lean's article describes some of these tests and trial runs with and without the reciprocating masses balanced, and the conclusion arrived at was that engines with these masses not balanced functioned in all respects as satisfactorily as "normally" balanced locomotives.

*Transport Costing*. London: Gee & Co. (Publishers) Ltd., 27-28, Basinghall Street, E.C.2. 8½ in. × 5½ in. 23 pp. Paper covers. Price 2s. 6d. post free.—This report is the first of a series sponsored by a joint committee of the Institute of Municipal Treasurers & Accountants (Incorporated) and the Institute of Cost & Works Accountants established to promote research into cost accountability as affecting local and public authorities. The object selected for inquiry is the cost of road haulage as it affects these authorities. The committee points out that much of what is said applies equally to services provided by other organisations, including the British Transport Commission. No details are given for operating a road haulage department, but the experience of many authorities is condensed, and the methods found effective in keeping down costs are discussed.

*Brown Boveri Calendar for 1954*. Twelve colour photographs of Swiss Alpine and lowland scenery each appropriate to the month it depicts appear on the 1954 calendar of Brown Boveri & Co. Ltd. Choice of subject, photography, and reproduction in colour alike are examples of Swiss skill and craftsmanship.

## THE SCRAP HEAP

### Toy Train Starts Blaze

Fire, believed to have been started by a short circuit in a toy electric train caused £3,000 damage to a building in Cincinnati. — *From the "Evening Standard."*

### Dancing Cars

The German railway authorities propose to provide a special coach with a dance floor in most trains to winter sports resorts. Undoubtedly, this scheme will encounter certain difficulties. A sudden lurch of the carriage as it rounded a corner might result in some unexpected innovations to the ordinary dance steps. If one were dancing a tango, it would be most disconcerting to find that, due to the jolting of the train over a junction, one was performing involuntarily the complicated gyrations of the rumba. Another problem is that of the quadruple rhythm of a train which might make an artistic interpretation of the waltz an impossibility. Once the "dance carriage" has got over its teething troubles, it should prove popular, and the example deserves serious consideration by Coras Iompair Eireann as a further attraction for the "Radio Train." — *From "The Irish Times."*

[In our August 22, 1950, issue, we illustrated one of two Danish State Railways excursion coaches containing a restaurant and dance saloon.—ED., R.G.]

### Signs of the Times

A contrast in station signs is shown in the photograph sent us by a correspondent and reproduced below. It was taken at Robertsbridge, on the Tonbridge to Hastings line of the Southern Region, the junction between the former

South Eastern & Chatham (later, Southern) and the Kent & East Sussex Railways; the latter became part of British Railways under the Transport Act of 1947. Reference to withdrawal of passenger services over the Kent & East Sussex line was made in our October 30 issue.

### Horse Power Stops Trains

Ten trains were cancelled, four diverted and others delayed before two horses that roamed on the line between Shortlands and Bromley South, on the Southern Region electrified lines, were caught. The night porter at Shortlands heard hooves clattering on the ballast and sleepers. It was dark at the time and current was switched off while staff went to look for the animals. Eventually the horses were caught, taken to Shortlands Station and stabled in the waiting room, where their owner claimed them. — *From "The Star."*

### Not Double Births

Roomettes and twinettes are apt names for the highly popular single and double-berth sleeping cars on the "Overland," but so far nobody has been able to suggest an entirely suitable name for the aircraft-type reclining chairs in the new sitting cars. Adjustable to a degree, they suit a variety of sitting and reclining postures. One can read in air-chair comfort or sleep in something rather better than chaise-longue ease. "Slumber seats" they are called in America; which, if one makes allowance for the inveterate American habit of using lyrical words in a severely factual context, gets pretty near the mark, with its balance of emphasis on stretching out and snoozing. It was probably this aspect that prompted two smartly dressed young things at the main booking office at Spencer Street, a week or so ago, to ask for two layettes on the "Overland." — *From the "Victorian Railways Newsletter."*

### The Old M. & G.N. Joint

I spent, in the closing years of the last century, some vivid hours in the box of a signalman on that line. In his young days he had been valet to the then Duke of Portland and his stories of those times were in themselves an education to a young mind. But the true interest was in the running of the railway. . . .

I remember once when a game little Beyer Peacock 4-4-0 engine stuck with its goods train half-way up the bank of 1 in 100 which rose in both directions from the station. Nothing daunted, the driver ran his train backwards through the station (shades of regulations!) and part way up the hill on the other side. Then reversing again and with full steam on he swept back and triumphantly topped the rise. And the exchange of tablets by hand with an express or fish train that did not stop at the station. The old signalman used to remark: "The quickness of the hand

deceiveth the eye"—and he was right. The beautiful canary yellow engines, with the very rare migrants of Midland red or Great Northern green, were in themselves a never-failing delight. — *From a letter to "The Times."*

### Local Control

Passengers in a slow train between Milan and Venice rebelled at Treviglio, when they were shunted into a siding to let an express go by. They invaded the signalbox and forced the signalman to shunt them back on to the main line and halt the oncoming Turin-Venice express, which was held up for an hour. The passengers were workers going home. — *From the "News Chronicle."*

### Cecil Rhodes, G.E.R. Engine Spotter?

Rhodes is alleged to have said: "Railways are my right hand." To the end of his days he thought of the industrial and commercial development of Africa in terms of the provision of railway facilities. Where did his interest in this type of transport originate? If environment is a source of inspiration, then perhaps his passion for railways began in early youth when he would walk the quarter of a mile from the rectory where he lived to Bishops Stortford Station and watch the trains arriving and departing. — *From the "Rhodesia Railways Magazine."*

### Digression

(Complaint of no change at local station)

I put the case to Porter Bill  
After the third or fourth refill:  
"What's all this fuss at Dimbledown  
"About no change?" Bill pulled a frown  
And cocked a wary eye at me,  
Which I pretended not to see,  
Then hummed and hawed about a bit  
(I'm sure he'd never heard of it.)

"No change, eh? That sounds very strange—

"A trip by train without a change:  
"With junctions dotted here and there  
"She could have got off anywhere;  
"You mean to say she went straight through  
"Without an hour or two at Crewe?"

He looked at me suspiciously:

"It seems a crazy yarn to me—  
"If that's a sample of your fun,  
"You'd better pull the other one."  
"The case," I murmured, stonily,  
"Is simply one of £ s. d.  
"Nobody there could change a note  
"And that's what got the lady's goat."

Bill diligently scanned his pot,  
Located dampness in one spot,  
Then chuckled: "Blowed if I see 'owt  
"To make a song and dance about.  
"Not change a quid? Gaw-lumme, why  
"Until next pay-day nor could I!"

A. B.



Photo] [R. C. Riley  
Railway Executive, Southern, and  
Kent & East Sussex notice boards at  
Robertsbridge

## OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

### WESTERN AUSTRALIA

#### Increased Freight Charges

From October 1, increased freight charges became operative. The increases range from 35 per cent on the lowest rated items to 20 per cent on the highest rated. Livestock charges are increased by 25 per cent. Fares remain unchanged. The new rates are estimated to produce approximately £2,000,000 more revenue a year.

### CANADA

#### Cost of Fuel to C.N.R.

Fuel is the largest single item in the \$300,000,000 spent annually by the Canadian National Railways. Coal for steam locomotives and oil for diesels account for most of the fuel requirements, but coke, charcoal and kindling wood are also included in the annual fuel bill of \$70,000,000.

#### Sherridon-Lynn Lake Line

The last spike in the Sherridon-Lynn Lake Line of the Canadian National Railways was driven at Lynn Lake, Manitoba, on November 7, by Mr. Donald Gordon, Chairman & President. The spike was made from the first nickel produced by the new mine of Sherritt-Gordon.

Surveys for the line began in 1951. Within 32 months it was constructed on schedule. It traverses rugged, unpopulated country; muskeg, permafrost, water-barriers and solid rock difficulties confronted the builders. More than 2,000 acres of land had to be cleared. The Churchill River had to be spanned at Pukatawagan Falls by three steel

truss bridges, the Russell River at mile 104½ by a steel bridge, and 52 timber bridges had to be built across lakes and rivers. Diesel locomotives are to be used.

During the past three winters the mine owners used tractor trains over the frozen wastes between Sherridon and Lynn Lake. Houses, schools, churches, a bank, hospital and other structures were moved complete to the new town site.

### BRAZIL

#### Leste Brasileiro Electrificação

The Leste Brasileiro Railway has inaugurated a second 4,000 kW. generator at Cotegipe Power Station and will shortly introduce electric trains on its suburban lines.

#### Re-equipment of Central Railway

President Vargas has approved a recommendation by the Bank for Reconstruction & Development to increase the loans in cruzeiros and foreign currencies for the re-equipment of the Central Railway. The original project of the Brazil-United States Commission entailed loans of 1,074,171,015 cruzeiros and U.S. \$10,784,631. The World Bank suggested, however, that because of the probable increase in prices and the omission of provision for unforeseen expenses, the amounts should be increased to 1,181,000,000 and U.S. \$12,500,000. The programme of re-equipping the broad-gauge lines, improving repair shops and increasing rolling stock is to be put in hand without delay.

The President has also approved plans to improve the permanent way of the

San Luis-Teresina and Bahia-Minas Railways, for which a credit of £211,800 has been allotted. The San Luis-Teresina is a single track, metre-gauge line, running from San Luis, capital of Maranhão, to Teresina, across the border in Piauí, 476 km. During the past five years expenditure has risen considerably, but revenue has remained almost unaltered at about £120,000 annually. The Bahia-Minas, also metre gauge and single track, runs from Caravelas, on the Bahia coast, to Arassuaí, in Minas Geraes, 582 km. Its annual deficit is some £480,000.

#### Amapa Railway

A 215 km. line is to connect the port of Santana, now under construction near Macapá, to the manganese mines in the Serra do Navio, Amapá Territory. It will be built and exploited under a concession, granted by the Federal Government to "Indústria e Comércio de Minérios" (Icomi), of Belo Horizonte. Icomi is working the mines in association with the United States Steel Corporation and has obtained a loan of U.S. \$30,000,000 from the Export-Import Bank to build the port and railway. The work will be carried out by an American company. Contracts have been signed to export up to 1,000,000 tons of manganese annually to the United States during the next fifteen years.

### UNITED STATES

#### Train Radio Extended

The Atchison, Topeka & Santa Fé Railway is to install train radio over the 451 miles of its principal main line between Chicago and Kansas City. Radio units will be fitted in the cabs of 85 diesel-electric "A" or driving units, and in 78 cabooses. The transmitting stations will be at Chicago, Shopton (Iowa), Chillicothe and Marceline (Missouri), and Kansas City, and contact with these stations will be possible within a radius of 15 miles. It is evidence of the value of these radio installations that they are now being applied to important double main lines, most of the installations hitherto having been on single-track lines.

The Great Northern Railway has placed contracts for the installation of train radio over 924 miles of its principal main line from Minneapolis to Havre, Montana, which is single track throughout. This will include the equipment of 37 fixed sending and receiving stations, in each driving cab of 15 multiple-unit diesel locomotives (30 sets of equipment), and 20 cabooses.

#### Recent Orders for Diesels

The Missouri Pacific System has been authorised by the Federal District Court to buy 66 additional diesel-electric units at a cost of approximately \$10,731,000.

### Station Rebuilding in Egypt



*In the background, the new station at Port Said, Egyptian State Railways, which replaces the old wooden structure shown in the left foreground (see November 6 issue)*

Of this order 48 are intended for service on the Missouri Pacific proper, and nine each are for M.P. subsidiaries, the Gulf Coast Lines and the International-Great Northern. When they are received the G.C.L. and I-G.N. will be completely, and the M.P. 74 per cent, diesel-operated.

The Louisville & Nashville has ordered 55 diesel-electric units at an approximate cost of \$8,450,000; 53 will be general purpose units of 1,600 or 1,750 h.p., and two road freight units of 1,600 h.p.

The Piedmont & Northern Railroad has decided to abandon electric working over its North Carolina Division, and to substitute diesel-electric locomotives. The plan, including new maintenance shops at Pinoca, is expected to cost about \$1,000,000. The section is one of three owned by this company, and each isolated from the other two; it extends for 23½ miles from Charlotte to Gastonia, with a three-mile branch from Belmont Junction to Belmont.

## FRANCE

### Rate-Fixing Procedure

By Government decree modifications have been authorised in the methods for fixing S.N.C.F. tariffs which tend to give more freedom to the railway. Under the previous regulations, the S.N.C.F. lost the right to vary rates even within statutory maxima and minima when the rates in question had remained constantly in operation for a period of two years; this restriction has been removed. In addition, the Minister can now overrule the Supreme Transport Council in cases of dispute over rating matters; previously he had the right only to refer back to the Council recommendations with which he did not agree.

### Effect of Strikes in August

The August traffic returns in France reflect the serious effect of the transport stoppage in that month.

On the S.N.C.F., freight traffic fell from approximately 3,250 million tonnes-km., in 1952 to about 1,700 million in 1953; passenger-km., which numbered about 3,400 million in 1952, declined to some 1,600 million this year. During the three weeks ended August 28, receipts from passenger traffic fell from fr. 8,556 million in 1952 to fr. 3,090 million this year; for freight traffic the figures were fr. 13,597 million and fr. 4,842 million respectively. This decline would be greater if account is taken of the increases in rates and fares which took effect in May of this year.

The Paris Metro also suffered similarly. During August this year originating passengers numbered 41,188,600 in comparison with 56,892,282 in 1952, whilst receipts fell from fr. 1,019 million in 1952 to fr. 744 million in 1953.

### Icing Wagons

To speed up the icing of refrigerator wagons, the Société des Transports et Entrepôts Frigorifiques (S.T.E.F.), of

which the S.N.C.F. owns over 90 per cent of the share capital, has constructed and put into use special icing towers on its premises at Avignon and Perpignan, important fruit-producing centres. These towers manufacture the ice, cut it into suitably sized blocks, and drop them through chutes into the bunkers of refrigerator wagons standing below, with the minimum use of labour. Re-icing at intermediate points, if required, is usually performed manually.

S.T.E.F. is to build another icing tower on S.N.C.F. property in the Dijon-Perrigny marshalling yard. Considerable refrigerated produce originates in this area, and the new tower, which it is hoped to have in operation by the Spring of 1954, will speed up, and reduce the cost of, wagon icing. In addition, it will facilitate the re-icing of wagons conveying dairy produce from the east to the south of France, and of wagons conveying fruits and early vegetables from the south of France to Germany, Belgium, Holland, and the Scandinavian countries via the north-east of France.

During 1952, some 158,000 tonnes of ice were used in refrigerator wagons in France, in comparison with 145,000 tonnes in 1950 and 37,000 tonnes in 1935.

## AUSTRIA

### Electrification in 1954

The electrification programme for 1954 of the Federal Railways comprises the extension of the Innsbruck-Bregenz electrification to Lindau, in Western Germany, where the Austrian railways connect with the German Federal Railways; the electrification of the Villach-Klagenfurt section, 23½ route-miles, and that of the line branching at Wels from

the Salzburg-Linz main line and connecting at Passau with the German Federal Railways (51½ route-miles). For the conversion of these lines an allocation of Sch. 398,000,000 has been made.

According to a Parliamentary statement there is Cabinet agreement that all main lines connecting Vienna with the south and the west, as well as all connections between them, should be electrified. It would take seven to eight years to carry out this scheme in its entirety.

## SWEDEN

### Trelleborg-Sassnitz Ferry

The Swedish-German railway ferry service between Trelleborg in Southern Sweden and Sassnitz, on the German island of Rügen, was begun in June, 1909. The boats plied without interruption from 1909 to 1942 when the war caused all passenger traffic to cease. In September, 1944, all traffic ceased and was not resumed until March, 1948. In October, 1952, services were again withdrawn, though some traffic was maintained on the longer Trelleborg-Warnemünde route.

On August 17 last, traffic on the Sassnitz route was again resumed, saving 3 hr. and one vessel compared with the Warnemünde route. Freight between Sweden and the Continent (especially Germany, Italy, Czechoslovakia and Hungary) can be moved more cheaply and rapidly than via Denmark, and Swedish commercial interests stand to gain. The long-term improvement of traffic facilities via Sassnitz is under international discussion. It is intended to establish direct connections between Sweden, Southern Germany and Austria.

### Locomotive Working in Greece



Photo]

[A. Earle Edwards

Hellenic State Railways 2-10-0 locomotive at the Piræus, about to haul empties of Salonica-Athens-Piræus night express back to Athens for servicing

## Palletisation on the Swiss Federal Railways

### *Pallet pool for smalls traffic*

AT the beginning of 1951 the Swiss Federal Railways announced their intention to experiment with palletisation so as to cut handling costs, to reduce transit time, and to minimise damage to freight. At that time Sweden was perhaps the European country most advanced in palletisation, some 18,000 pallets being in use on the Swedish State Railways; considerable attention was, therefore, given by the S.F.R. to the experience gained in Sweden. During the past three years no other European railway administration has done more than the Swiss Federal to extend the use of pallets, and at present that administration owns some 25,000 pallets, these being additional to 8,000-10,000 pallets owned by Swiss traders.

For the Swiss Federal Railways the greatest economy in the use of pallets arises in the case of smalls traffic, where traffic is loaded, transhipped, and unloaded by the railway, though in this respect wagonload traffic has not been neglected.

#### **Pallets and Lifting Trucks**

All the pallets owned by the S.F.R. are of one size, namely 1.215 x 0.81 metres (roughly 4 ft. x 2 ft. 8 in.); many of these pallets, which are known as Type 1, are also owned by traders. In addition, there is a limited number of Type 2 pallets in use on the S.F.R. measuring 1.215 x 1.01 metres, but these are all owned by traders. The pallets are designed to be lifted from either end or either side. Certain detachable fitments are available to suit the needs of special types of traffic. Thus supports can be attached at the sides to enable metal cylinders to be carried; removable walls can be fixed to enable small and irregular shaped packages to be carried; and metal wedges can be clamped into place at the ends to prevent longitudinal movement. These fitments are more generally owned by traders, but a small stock is held by the S.F.R. The cost to the railway of standard Type 1 pallets without accessory fitments is approximately 20 Swiss francs (£1 13s.) each.

#### **Lifting Equipment**

Various types of lifting truck are in use at S.F.R. goods and transshipment stations. Where a large number of pallets are handled, electric or petrol-operated fork-lift trucks are provided, and hand-operated pallet trucks are also in use at these stations and at stations which do not justify the provision of a power-operated fork-lift truck. The hand-pallet trucks in some cases incorporate a hydraulic lifting device. The fork-lift trucks can, if necessary, raise pallets to a height of up to 335 cm. (nearly 11 ft.) from the ground, while the twin forks are 76 cm. (nearly 2 ft. 6 in.) long. The hand-pallet trucks can only lift the pallets a few inches

from the ground, sufficient to enable them to be moved freely. To facilitate handling the weight of a loaded pallet is restricted to 1,000 kg.

#### **Smalls Traffic**

By the beginning of October, 1953, seven goods stations had been equipped with pallets, which were in general use at those stations for the despatch of smalls; these stations were also provided with fork-lift and hand-pallet trucks. The stations concerned are Berne, Bienne, Lausanne-Sébeillon, Basle (S.B.B. and Saint Jean), Lucerne, Lugano, and Zurich. In addition, some 300 other goods depots which have a considerable traffic with these stations have been provided with hand-pallet trucks and in some cases with fork-lift trucks.

Smalls received for despatch at the stations listed above, and destined for stations having pallet-moving facilities, are sorted to destination and distributed amongst pallets which have been laid out previously in station order on the floor of the goods shed. As the pallets become full they are moved into the appropriate goods wagon by means of the trucks provided. On arrival at destination, either directly or via a transshipment centre, the pallets are unloaded by fork-lift or hand-pallet truck and the goods delivered to the consignee on application. Where the whole of a pallet load is for one consignee the pallet is moved direct to the motor vehicle before being unloaded.

#### **Pooling of Pallets**

In many cases both smalls and wagonload goods for despatch by rail are loaded on to their own pallets by traders. In the case of wagonload goods the loaded pallets are stowed in the railway wagon by the trader and are not handled by the S.F.R. In the case of smalls traffic the loaded pallets are delivered to the S.F.R., at the latter's goods sheds. They are then loaded with other pallets containing smalls packages into the appropriate railway wagon, as indicated earlier.

To encourage this practice the Swiss Federal Railways in respect of smalls traffic have initiated arrangements for the pooling of pallets. A trader wishing to take advantage of this scheme must conform to the following conditions:

(i) Pallets must be identical in all respects with those of the S.F.R. and must be marked on each side with the name of the home station and with the letters SBB-CFF;

(ii) It must be possible to use the standardised detachable fitments with the pallets;

(iii) All smalls traffic handed to the S.F.R., if suitable for palletisation, must be loaded on S.F.R. type 1 pallets;

(iv) S.F.R. standard type pallets are

not to be used for road traffic over distances exceeding 25 km. in competition with the railway;

(v) In principle, only goods from one consignor to one consignee are to be loaded on any individual pallet, although, if essential, the S.F.R. will accept a pallet for one destination station loaded with goods for several consignees;

(vi) The pallets must not have accessory fitments attached to them.

Provided these conditions are met, and that an agreement has been signed with the railway, for each pallet loaded with smalls handed to the railway, the latter will hand an empty pallet to the trader. Conversely, any trader within the scheme to whom smalls traffic on pallets is delivered will hand over to the S.F.R. an equivalent number of empty pallets. Pallets thus handed to the railway become their property, the trader, in exchange, acquiring ownership of those received from the railway.

These exchange arrangements are not applicable to pallets used for wagonload traffic, although there is nothing to prevent a trader using the standard Type 1 pallets for such traffic. Furthermore, standard pallets with fitments can be used for either smalls or wagonload traffic, but they cannot be included in the exchange scheme.

Up to the present time some fifty traders have designed the special form of agreement with the S.F.R. In addition to the conditions listed above, the agreement form sets out, inter alia, information regarding the markings to appear on the standardised detachable fitments, some data on the calculation of charges, details of the way in which pallets shall be documented and returned, and some remarks on the respective liability for damage.

Detachable fitments on pallets used for railway transport must bear markings indicating the owning firm, a serial number, the home station, and the tare weight; these fitments are all returned to the consignor. Where pallets are damaged during railway transit they are repaired at the expense of the S.F.R., whilst a trader is responsible for maintaining in good condition pallets in his care.

#### **Raising of Charges**

The charging arrangements for pallets are similar whether they are being used for wagonload or smalls traffic. Charges are raised, in accordance with the normal scale for the goods in question, on the net weight of the load, excluding the weight of the pallet. Where pallets are being used without accessory fitments, and the net weight is not declared, this is ascertained by deducting from the gross weight of the consignment an allowance of 25 kg. (55 lb.) a pallet. In the case of consignments loaded on pallets with acces-

sory fitments, the net weight is obtained by deducting from the gross weight an allowance of 25 kg. plus the weight of the fitments as indicated on them.

Where standard pallets conveying smalls are forwarded by traders co-operating in the pooling scheme, the question of returning empty pallets does not arise. In other cases, empty pallets, including accessory fitments where used, are conveyed free of charge by slow freight train, provided a loaded transit by rail has either immediately preceded or will immediately follow. If transport by fast freight train is required normal charges are raised.

#### Checking and Documentation

Special rules have been evolved by the S.F.R. regarding checking and documentation of pallets and their loads. Goods loaded on pallets are carefully checked on being received from the consignor who, in accordance with normal S.F.R. practice, hands to the railway representative a consignment note (*lettre de voiture*) in duplicate. The forwarding station inserts the freight charges on both copies of the consignment note, the original of which accompanies the goods as invoice and waybill, whilst the carbon copy is retained temporarily for accounting purposes, and is subsequently returned to the consignor.

In the case of palletised smalls traffic the forwarding station must also enter on the consignment note before despatch details of the number of pallets used, the number of accessory fitments used, the serial numbers of these fitments, the total free weight allowance in respect of pallets and fitments, and the number of standard pallets exchanged.

At the destination station all freight traffic is entered on delivery sheets, which will again include any relevant information regarding pallets and fitments. When a consignee is being advised of the receipt of goods he is also advised, where appropriate, of the number of empty pallets to be brought to the station in exchange for loaded pallets. At the time of delivery a further detailed check will be made of the goods concerned.

Incidentally, the simplified form of documentation for freight traffic which is in use on the Swiss Federal Railways is noteworthy, comparing favourably with that used by certain other railways.

In certain circumstances the administration allows a consignee who has not signed an exchange agreement to take delivery of smalls complete with the pallet on which they are loaded, unloading taking place at the trader's premises. In such a case the consignee must ensure the return of the empty pallets to the receiving station within 24 hr., when they will be sent back

immediately to their home station. Wherever possible they will be used for a return load; failing this they will be returned empty.

Where empty pallets belonging to the S.F.R. are returned to their home station no invoice (or waybill) is required. In other cases waybills must be prepared indicating, where this is the case, why no charges are being raised.

#### Return of Empty Pallets

Wagonload traffic does not in any circumstances involve the exchange of pallets, and it is the responsibility of the consignor to make his own arrangements with the consignee regarding the return of empty pallets. In this case the consignee returning the pallets will make out a consignment note, in the usual way, which will be endorsed "empties returning—loaded transport carried out by rail."

Special care is taken to differentiate between empty pallets which have been used for wagonload traffic and are being returned to a specific trader, and those used in the exchange scheme, which, in effect, belong to the S.F.R. Special storage space is set aside at goods sheds for S.F.R. pallets and, as an additional precaution, railway-owned pallets when not in use are stacked alternately endwise and sideways, whilst other pallets are stacked all facing one way.

## Rolling Stock Weight and Cost per Passenger

### Comparison between U.S.A., Switzerland, and Britain

(By a correspondent)

ON most standard railways in the U.S.A., a modern 85-ft. "coach," the equivalent of British third class, weighs about 60 tons and seats 55-60 passengers in reclining chairs. If it forms part of a twelve-coach train, including baggage and restaurant cars and hauled by a twin-unit diesel-electric locomotive of 4,000 h.p., and the weight of the locomotive is divided over the coaches of the train, there is over 1½ tons of train weight for every passenger carried, assuming the train is full. By comparison, a private road motorcar, carrying four passengers in comfortable conditions for long-distance travel, has a weight of only half-a-ton per seat, while a nine-ton motorcoach accommodating 37, works out at slightly over a quarter-of-a-ton per seat.

The cost in the U.S.A. of building a passenger train, including the locomotive, baggage and restaurant cars with the coaches themselves, works out at roughly \$2,600 a seat, or more than four times the cost of a seat in a private car and fully ten times that of a seat in an air-conditioned motorcoach, though the two latter do not incorporate refreshment facilities. A great deal has been done in recent years to lighten the weight of

American stock, as far as the structure is concerned, by improved design and the use of light metal alloys; the average reduction in weight, compared with that of the previous heavy all-steel twelve-wheel cars, probably attains at least 33 per cent., but to some extent this reduction has been offset by the addition of weighty modern amenities such as air-conditioning, and much elaborate equipment aimed at safer and more reliable operation.

#### Swiss Lightweight Stock

Other countries have been more successful in coach weight reduction. Perhaps the most outstanding example that could be cited on this side of the Atlantic is the Swiss Federal Railways, whose latest 73-ft. lightweight coaches average no more than 27-28 tons and seat 72 passengers in each third class coach, and 48 in each first and second composite. A twelve-car train of such stock, including brake, restaurant car, eight thirds, and two composites, would seat 672 passengers in a tare of 384 tons, Bo-Bo electric locomotive included, which is only 0.58-ton of train weight for every seated passenger. The Swiss third class, with wooden seats, is perhaps primitive

in comparison with an American reclining-chair car, but if the Swiss train were made up of first and second only, the comfort and standard of interior decoration in both of which classes equal, in the view of many experienced railway users, the best first class accommodation on any other European railway, and the riding qualities of which are very good, the weight of coaching stock and locomotive per passenger conveyed would still be only 0.8 tons.

British train weights are nearer to the American than to the Swiss standard. A twelve-coach train of the latest British Railways standard stock, consisting of one of the new 48-ton kitchen cars, two open restaurant cars used for meals only, a full length brake, a third-class brake at the other end of the train, five thirds and two firsts, would weigh 412 tons, or with Pacific locomotive and tender, about 570 tons, and would seat 348 passengers, excluding the restaurant cars. This works out at just over 1.64 tons of train weight per passenger seat, and even if passengers were carried to the full capacity of the restaurant cars also, the weight of the train would still be 1.3 tons for every passenger seat.

## Combined Railway and Conveyor Bridge

*Unusual prestressed concrete structure at Calverton Colliery*



*Bridge linking sections of colliery and carrying a railway on the deck and conveyor belt beneath*

A 74-FT. span combined railway and conveyor bridge in prestressed concrete has been constructed for the East Midlands Division of the National Coal Board at Calverton Colliery, Nottinghamshire.

The layout of the colliery is such that the winding shafts are separated from the coal-preparation plant by an existing roadway. It was necessary that there should be a railway bridge to connect the two and also a means of transporting coal and refuse between the pithead and the coal-preparation plant.

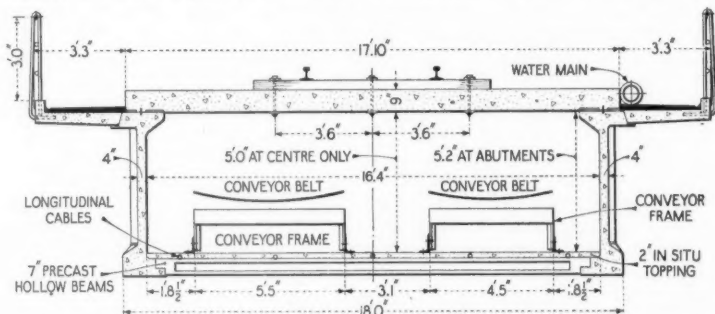
### Headroom Requirements

As the Planning Authority would not permit a separate overhead conveyor structure, it was decided to try to use the space between the deck and soffit of the bridge to accommodate the conveyors. To do this a minimum headroom of 5 ft. was required between the underside of the upper (railway) deck and the lower floor which would carry the conveyors. The Ministry of Transport headroom requirement of 16 ft. 6 in. determined the minimum height of the bridge soffit; a further consideration which had to be borne in mind was the need to ensure the minimum interruption to road traffic during construction. To meet these requirements it was considered that prestressed concrete, in convenient precast lengths, was particularly suitable. This material provided advantages of saving in materials, reduction in weight, increased rigidity giving reduced deflection, and the elimination of shrinkage cracks.

The maximum permissible live load on the bridge as finally designed is 104 tons, or the weight of two diesel locomotives and a loaded wagon weighing 42 tons and 20 tons respectively. The

speed of any train is restricted to 10 m.p.h.

The weight of the coal and refuse conveyors are 135 lb. per foot run and



*Section through the bridge, showing slab on which railway is laid and which forms the roof of the conveyor housing*

115 lb. per foot run respectively and the maximum loads on the coal and refuse conveyors at any one time for the span of the bridge are 4.46 tons and 3.8 tons respectively.

The two main girders are 77 ft. long overall and 5 ft. 9 in. deep with a web thickness of 4 in. at the centre of the span increasing to 7 in. at the ends and a camber of 2 in. Each girder was precast in three sections, the end sections weighing 5½ tons each and the centre sections 8½ tons each.

Once the complete girders had been lifted into position six Freyssinet cables of 12 0.2 in. diameter wires were threaded through ducts which had been formed in the units during casting by using Ductube. The ¾-in. joints between the sections of the girders were filled with a dry mortar of cement and sand in equal proportions. Stressing was carried out from both ends of each

beam and after stressing the cables and ducts were grouted under pressure.

On the approaches to the bridge the conveyors run below ground and the conveyor housing roof is a 9 in. prestressed slab which carries the colliery railway running above.

### Testing Deck Specimen

A specimen section of railway deck was cast and tested to destruction at work, under the supervision of the Building Research Station. The deck specimen, which was 5 ft. 4 in. wide and 9 in. deep, was supported on a clear span of 16 ft. 3 in.

The engineer was Mr. H. C. Griffiths, in collaboration with the Pre-Stressed Concrete Co. Ltd. The contractors were Fletcher & Co. (Contractors) Ltd., of Mansfield, whose work included the construction of the abutments and stone facing, the erection of the main girders and precast concrete flooring units, and the *in situ* concrete to the prestressed railway deck.

The precast bridge girders and the precast flooring units were cast at the Manchester works of Matthews &

Mumby Limited. This firm also supplied and fixed the prestressing cables and carried out all post-tensioning on site.

**KINGS CROSS-SHEFFIELD: FAST SPECIAL WORKINGS.**—In connection with the opening by the Duke of Edinburgh on November 19 of the new British Iron & Steel Research Laboratories at Sheffield, a special train was run from London by the Eastern Region for a large number of guests. As a prompt and early arrival was essential, the train of four open first class restaurant cars, a kitchen car, and brake van was booked to cover the 161½ miles from Kings Cross to Sheffield Victoria in 2 hr. 58 min. and return in 3 hr. 12 min. Hauled by class "A4" Pacific No. 60022 *Mallard*, it arrived 3 min. early on the outward journey and 4 min. early on the return. Special breakfast and dinner were served to the passengers.

## Electrically-Operated Baggage Cars

*Supplementing baggage service on London Midland Region electrified lines in Liverpool-Southport area*



*Passenger carrying vehicle converted for use as self-propelling baggage car on electrified lines*

**B**ECAUSE of the virtual absence of steam trains on the Liverpool, Southport, Crossens, and Ormskirk electric lines of the London Midland Region, and of the lack of adequate baggage compartments on the electric rolling stock, it has been necessary from the outset to use special vehicles for the conveyance of baggage between stations on these lines.

The original vehicles, built by the Lancashire & Yorkshire Railway, have recently been withdrawn from service because of age, and to take their place a motor car and a driving trailer car of the compartment type stock built for these lines in 1926 have now been converted from their normal passenger-carrying role for use as baggage cars.

### Conversion Details

These vehicles have a driving compartment at each end as they are to operate singly without attachment to a train. They are 59 ft. and 57 ft. long respectively, and 8 ft. 11½ in. wide over body panels at the waist. Each vehicle has one motor bogie and one trailer bogie, and is fitted with vacuum and hand brakes. The original Westinghouse air brake has been removed as it is intended that these vehicles shall be capable of hauling a vacuum-fitted freight vehicle as required.

The passenger seating and partitions dividing the compartments have been removed to provide a baggage compartment of about 35 ft. in the former car and 33 ft. in the latter car, with two sliding doors on each side of the vehicles giving a clear opening of 4 ft. at each doorway to facilitate loading and unloading.

### Conveyance of Fish

Provision has been made in the baggage compartment for the conveyance of fish, an area of the floor space in each car having been fitted

with recessed drip trays with drain pipes to carry away the fluid produced by melting ice clear of the electrical and other equipment. Timber gratings fitted on these trays, and on which the fish boxes stand, are easily removable for cleaning purposes. Each vehicle has a separate compartment for the conveyance of railway staff when required.

### Electrical Equipment

Half the electrical equipment has been transferred from the motor car to the driving trailer car, so that each car is now powered by one motor bogie fitted with two 265-h.p. traction motors which are controlled by the original electromagnetic contactors. Advantage has been taken of the reduced control equipment in each car to re-organise the layout in the equipment compartment to facilitate maintenance and to evenly distribute the weight. Equipping of the

driving trailer car required the complete installation of control gear in a new equipment compartment.

New lighting has been installed throughout both cars, using a prismatic rectangular bulkhead type of fitting. The body and brakework re-construction has been carried out under the direction of Mr. H. Randle, Carriage & Wagon Engineer, and the electrical work under that of Mr. J. F. Harrison, Mechanical & Electrical Engineer, London Midland Region.

**RENAMING OF STATIONS IN SCOTLAND.**—British Railways, Scottish Region, have renamed the following stations: Whifflet Low Level (now Whifflet Lower); Whifflet High Level (now Whifflet Upper); Port Dundas (L.M.S.) (now Port Dundas West); and Airdrie (L.M.S.) (now Airdrie East).

**HYMATIC HIGH-PRESSURE INDUSTRIAL COMPRESSOR.**—The Hymatic Engineering Co. Ltd., Redditch, has designed a compact single-cylinder, high-pressure air-compressor unit suitable for a wide range of industrial duties. Known as the SH20/AS, it will deliver over 4 c.f.m. of free air at pressures of up to 350 p.s.i. at 750 r.p.m. more than sufficient for the pneumatic starting of smaller diesel engines, the operation of air blast switchgear, the charging of high pressure air control systems, and so on. When the need arises, working pressures can be raised up to a maximum of 500-600 p.s.i. for special applications. Among many design features introduced to reduce first cost and to simplify maintenance is the provision of automobile type renewable whitmetal shell bearings in the big end. Splash type lubrication from the sump is employed and cooling is normally carried out by a combined fan-pulley. Power absorption when the unit is delivering its full capacity against a working pressure of 350 p.s.i. is 2.5 h.p. at 750 r.p.m.



*Baggage car interior, showing the wide sliding doors to facilitate loading and unloading, and gratings for fish boxes*

## Rehabilitation of the Indonesian State Railways

*Purchase of new rolling stock including diesel-electric locomotives, and introduction of air-conditioned trains*



*Diesel-electric 1,600-h.p. locomotive built by International General Electric for the Indonesian State Railways*

**B**EFORE the Japanese occupation the railways in Indonesia, totalling some 4,260 miles, were worked by the Government and 12 private companies. After the cessation of hostilities eleven company railways in Java and Madura were nationalised. During the occupation a considerable mileage of 4-ft. 8½-in. gauge track was converted to the 3-ft. 6-in. gauge, which is now standard, except on some secondary lines in Java and Sumatra. Some 75 route miles radiating from Djakarta (formerly Batavia), the capital, are electrified.

Like other railways in occupied territories the railways were operated solely to meet immediate war requirements, as a result of which the permanent way and rolling stock deteriorated considerably. Furthermore, locomotives and rolling stock were transported to Malaya, Siam, and elsewhere. Although much of this material has been returned, extensive repairs and replacements are needed before the railways can operate efficiently.

Much has been done to restore the railways to their pre-war basis. That there is still much leeway to be made up is evidenced by the fact that in 1937 the rolling stock throughout the territory consisted of some 1,278 locomotives, 3,614 passenger carriages, and 27,140 goods wagons, while the rolling stock available in 1950 was 809 locomotives, 2,621 carriages, and 20,910 wagons.

In 1950 orders were placed with Fried. Krupp Lokomotivfabrik for 100 steam locomotives of the 2-8-2 type, and 100 passenger carriages and 1,000 wagons were ordered in the Nether-

lands. Furthermore, an order was placed with International General Electric for 27 diesel-electric locomotives, the first two of which have already been delivered; complete delivery is expected before the end of this year.

Orders for a further 298 coaches for express services and fast trains were placed at the end of 1951. They consist of 49 first and second class carriages, 15 restaurant cars, and 27 third class carriages, all of which are equipped with Stones air-conditioning. The remainder consists of 123 third

class carriages, 30 third class combined passenger stock with restaurant compartments, 11 third class with passenger and luggage compartments, and 43 luggage vans, the orders were divided between France, the Netherlands, and Austria.

Even assuming that some of the rolling stock available in 1939 was not due for replacement on age limit, there would appear to be quite a considerable leeway to make up before the railways regain their prewar total of rolling stock. It is understood that the Washington Export-Import Bank approved on November 6, 1950, an appropriation of 17.1 million dollars for the purchase of rolling stock from the general \$100-million loan granted to the Government of Indonesia for the country's economic reconstruction. Even before the loan was granted, however, the Government had placed the 1950 orders, evidence of the efforts which it is making towards the rehabilitation of the railways.

On the basis of actual members it would appear that the railways still require some 350 locomotives, 600 carriages, and 5,300 wagons to reach the prewar total of rolling stock; figures which might well be exceeded, since much of the older stock may require replacement from either condition or obsolescence. Traffic, both passenger and goods, have shown considerable recovery, the figures for goods traffic are still much below prewar figures, whereas the monthly average was 0.8 million tons in 1938 and 0.9 million tons in 1939, the tonnage carried in the years 1948, 1949, 1950, and was 3.5,



*Oil-burning 2-8-2 locomotive built by Fried. Krupp Lokomotivfabrik for express passenger and fast freight services*



*Third class coach with lowered floor between the bogies built in the Netherlands. This was used for second class travel temporarily because of shortage of rolling stock*

4.9, 5.3, and 5.9 million tons respectively. Similarly there is also a considerable upward trend in passengers carried during the same period, these being 51.08, 65.01, and 105.7 million respectively.

The receipt of the 100 steam locomotives ordered from Fried. Krupp Lokomotivfabrik, the last of which was delivered in September, 1952, considerably alleviated the shortage of locomotive power. The locomotives, which were described and illustrated in our August 22, 1952, issue, were designed for hauling express passenger and fast freight trains on level track, and on gradients up to 1 in 25 in Java.

The first 50 locomotives are constructed for coal burning, and with copper fireboxes, the remainder have steel fireboxes and are equipped for oil burning. The locomotives have a tractive effort of 26,500 lb. at 75 per cent boiler pressure, and a factor of adhesion of 4.25.

#### Dieselisation

As a second step towards the rehabilitation of the locomotive stock, 27 diesel-electric locomotives were ordered at the end of 1951 from International General Electric. The first two were delivered in September of this year, and the remaining 25 are expected to be received by the end of the year. The locomotives will be used mainly for express and fast passenger trains on the northern main line between Djakarta-Surabaya, Djakarta-Bandung and Surabaya-Malang services; the first two are already in service with, it is said, satisfactory results.

The body of the locomotive is carried on three bogies, the middle bogie, which is two-axled, is only a carrier, while the outer bogies are three-axled

and driven by traction motors. The axle load is 12 tons, and it is intended to carry out the strengthening of the track and bridges, after which the middle bogie will be removed. The bogies are of the swing-bolster type and are fitted with roller bearings.

#### Air Conditioning

All carriages irrespective of class are basically similar in body construction, which is of integral design. The saving of weight in rolling stock is of special importance on the railways of Indonesia, more than 30 per cent of the main line has gradients of 1 in 100 and upwards. Roller bearings are being

fitted to all new rolling stock so far ordered. In the case of wagon stock, the main parts were fabricated in the Netherlands and assembled in Indonesia.

The railways are taking delivery of the air-conditioned rolling stock, and it is expected that deliveries will be completed in October, 1954. From this date all express trains will be air-conditioned, and will include first, second, and third class accommodation. Each air-conditioned coach has through-wiring and couplings for attachment to non-air-conditioned rakes.

All the electrical equipment for the air-conditioned and non-air-conditioned rolling stock is supplied by J. Stone & Co. (Deptford) Ltd., the third class is equipped on the basis of one-in-three, the remainder are wired only, with inter-couplings. The same firm are supplying the air-conditioning units which is of the Stone-Carrier design, fluorescent lighting is fitted of the hot-cathode type, with 24 in. by 1½ in. tubes, operating at 110 V. d.c.

Isoflex insulating material is fitted between the side and roof panels, and the floor consists of corrugated steel sheet, filled with cork to a depth of 1½ in. above the top of the corrugations. Acalor green tinted fixed lights are fitted; clear safety glass is fitted on the inside. In the non-air-conditioned stock, single Acalor windows are fitted, the upper half of which is adjustable. Seat frames and luggage racks are of stainless steel.

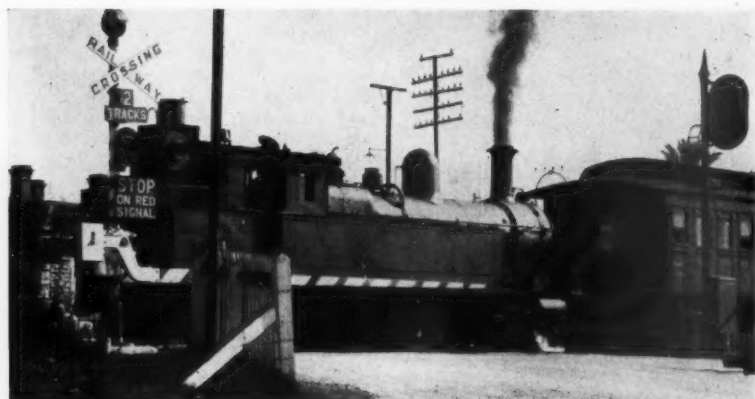
From the foregoing it will be realised that much has been done to put the Indonesian railway system back to its prewar level. Further consideration is also being given to the increase of motive power and rolling stock which may possibly lead to the dieselisation of more passenger trains, and also to the possibility of augmenting certain services by the purchase of diesel railcars.



*Third class main-line stock built in the Netherlands*

## Automatic Level Crossing Gates in South Australia

*Three installations in service  
on Adelaide suburban lines*



Photo]

[Guy Bakewell

*Arm in horizontal position closing crossing to road traffic while suburban train passes*

THE South Australian Railways were the first to introduce automatic level crossing gates in Australia. Although boom gates have been used before in Australia they have not been worked automatically. The first S.A.R. automatic gates were installed in August, 1951, at Ovingham, a suburban station on the main north line, and a second set was installed at Croydon on the busy Port Adelaide line eight months later; last May, another installation was made at Alberton on the same line.

The boom gates consist of a single bar across the left-hand side of the

road and on each side of the railway. When open for road traffic the bar or boom is vertical. As a train approaches it is lowered automatically, and when the line is once again clear for road traffic the two bars resume their vertical position.

### Warning Lights

On each bar there are three red lights visible from both road directions; they hang from brackets by a flexible attachment ensuring that they always remain upright. The light nearest the pivot end burns steadily; the other two are flasher

lights and act with the standard level crossing light signals and bell warning, also installed with the gates. On the approach of a train and before the gates descend there is a warning period of at least ten seconds given by the flasher lights to road traffic that the gates are about to descend. The lights continue to flash and the bell to sound until the train has passed and the arms stand upright again. In the unlikely event of a complete power failure, the arms would descend to protect the crossing.

The installations mentioned are all on double-track lines. Provision is made to cope with the situation that would arise if two trains in opposite directions were to pass over the road crossing within a few minutes of each other.

After the first train had passed and the arms begun to ascend, if they had not risen 30 deg. above horizontal they would descend again on the approach of another train. Should the arms have passed the 30 deg. position they would not descend again for a period of at least twenty seconds, thus giving road traffic sufficient time to clear and not foul the descending arms.

The gate mechanisms are of American manufacture and their installation was carried out by the Signal & Telegraph Branch of the South Australian Railways. Other installations will be made at a later date, when required. Twenty sets of equipment have been received.



Photo]

[Guy Bakewell

*Crossing open for road traffic, with arms upright*

## Battery-Operated Floor Cleaner

*Self-powered machine is a combined wet or dry scrubber and drier*

**A** CLEAN engineering workshop floor contributes considerably to keeping accidents to a minimum, and with this object in view S. R. Cowlard Limited, Bromsgrove, Worcs., has developed a new self-powered floor cleansing machine. Known as the C50A, this is a combined dry or wet scrubber and drier.

Battery-operated and, therefore, free from trailing cables, this machine, said to be the first of its kind, enables one man to scrub, clean, and dry, four to five hundred yards an hour without impeding production; this work would normally involve at least five men, and would probably interfere with production unless performed at the weekend when labour costs are naturally higher. It is said to be particularly suitable for treating floors where compacted oil and grease have made the surface treacherous under foot which feature increases the likelihood of accidents. It will also cope successfully with both canteen and office flooring of all types.

### Operating Features

The Cowlard C50A consists fundamentally of a cast aluminium machined base, suspended on an adjustable front caster and two rear wheels, upon which is mounted a divided tank—one half for the clean solution of water and detergent and the other to receive the dirty water. This tank is flanked by two 12-V. Exide traction batteries connected in series to power a B.T.H. 1-h.p. industrial motor, which drives twin rotary brushes, and a fractional-horse-power suction motor and fan running 11,200 r.p.m. which exhausts the air from the dirty water tank. Mounted on the handles of the tubular steel framework are the motor switches, water and suction control levers.

In operation the cleansing solution is gravity fed from a four-gallon tank to a sprinkler system immediately ahead of the brushes. As the machine passes over the scrubbed portion of the floor, the dirty water is piled up by trailing

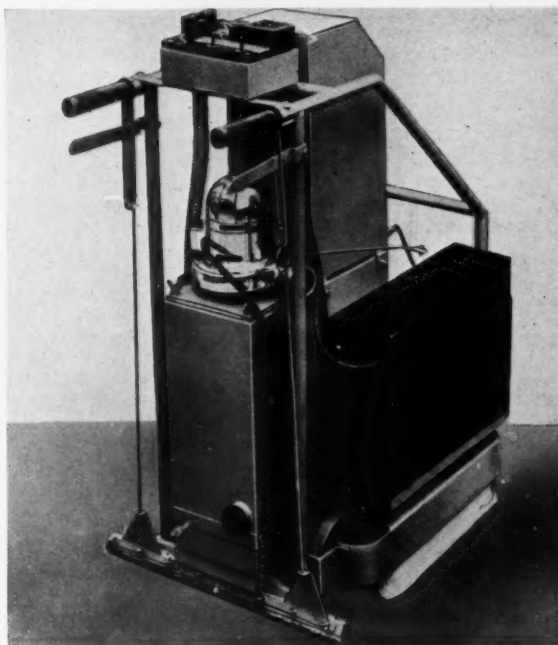
squeegee rubbers attached to the suction bar at the rear and sucked vertically up into the other half of the tank. It is stated that this suction system is so efficient that the clean floor is dry within seconds of the machine's passing.

One of the most interesting features of the new machine is the interchangeable aluminium-backed brushes which together cover an area 19 in. wide. Available in a complete range of fittings for all types of flooring, they are specially designed in the shape of a four-pointed star with a cut-out centre. The two brushes intermesh like gears so that no blind or unscrubbed streak is left behind on the floor, while the cut-out centres successfully prevent clogging and allow for a considerable degree of self-cleaning.

Easily and rapidly interchangeable, the brushes are retained and locked in position in keyhole slots cut in the two rotating base plates which are driven through a simple reduction gear by the 1-h.p. motor. Of particular importance is the unique brush-pressure control system, which, besides avoiding excessive wear, enables the best scrubbing action to be obtained under varying conditions. Mounted on the caster and wheels, all of which are micro-

adjustable, the brush unit can be regulated so that the bristles are never leaning on the floor and only the tips are in actual contact with the dirty surface.

When required to clean a floor made hazardous by thickly compacted oil and grease, the machine is first fitted with



*The C50A self-powered cleaning machine*

heavy industrial scratch brushes with self-cleaning steel prongs. The compact then having been broken down into dust, wet scrubbing brushes are employed in the usual way. Slurry is contained within the floor area covered by the machine, and absence of trailing cables removes the one inconvenience normally associated with mobile electrically-powered equipment.

**EXPANSION OF B.T.H. MANUFACTURING FACILITIES.**—The British Thomson-Houston Co. Ltd., has announced a ten-year programme for the expansion of its turbine business. The programme is in two parts, involving extensive re-equipment and re-organisation of the Rugby turbine plant and the erection of a new factory at Larne, Northern Ireland, which latter will concentrate on the manufacture of large turbo-alternators, of 30,000 kW. and upwards, and will be built alongside the turbine blading factory already under construction by the Northern Ireland Government. Manufacture of turbo-alternator sets

below 30,000 kW., gas turbines, marine main and auxiliary equipments, compressors, and so on, will continue at Rugby but on a much increased scale.

**RECORD OCTOBER TOURIST TRAFFIC.**—There were more than 49,500 overseas visitors to Britain in October, the highest total ever recorded for the month. Announcing these figures Mr. John G. Bridges, Director General of the British Travel & Holidays Association has emphasised that the holiday season is extending year by year. Of the October total, nearly 28,000 were visitors from European countries, 10,000

from the United States, and an estimated 8,500 from the Commonwealth and Empire. American arrivals exceeded those in October, 1952, by 8 per cent, and there were substantial increases from Belgium, Germany, and Sweden. October arrivals, he states, brought the total of overseas visitors for the first ten months of the year to 734,494, an increase of 12 per cent over the corresponding period last year. It had been estimated that the number of overseas visitors to this country during Coronation year would be 800,000, and it was probable that this number would be exceeded.

## Broad-Gauge Tank Engines for India

*"WM" class 2-6-4 locomotives to Indian Railway Board standard design*

**A**MONG the locomotives now under construction by Robert Stephenson & Hawthorns Limited are 30 "WM" class, 2-6-4 tank engines for the Government of India. The locomotives are similar to those described and illustrated in our January 9, 1953, issue, and are of standard design, except that the side tanks have been strengthened by the inclusion of angles and are mainly of riveted construction. Other minor alterations include the design of the firebox grate. The locomotives were built to the inspection of the consulting engineers, Messrs. Rendel, Palmer & Tritton.

The accompanying diagram shows that the weights given differ slightly from the principal dimensions included

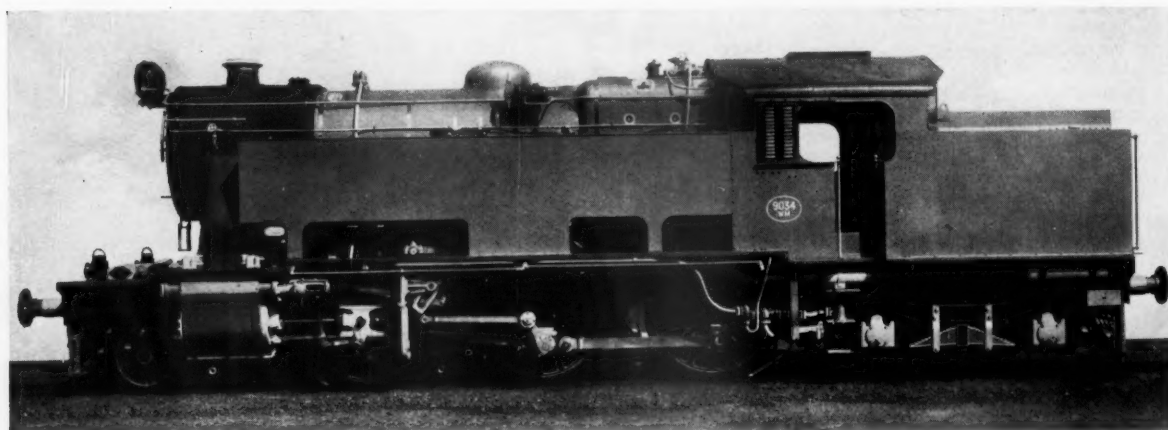
with this article. The boilers are of standard design and are interchangeable. They are also interchangeable with the original standard design, the only difference is the substitution of a copper firebox for an all-welded steel firebox.

In the present design rocking grates only are fitted, instead of the drop grate-rocking grate combination as formerly. The tanks in the previous design were of welded construction with stay and surge plates bolted in position. Filling boxes were also fitted on each of the side tanks, and on the right- and left-hand side of the bunker tank. In the present design the side tanks have been strengthened by the inclusion of angles, and are mainly of riveted con-

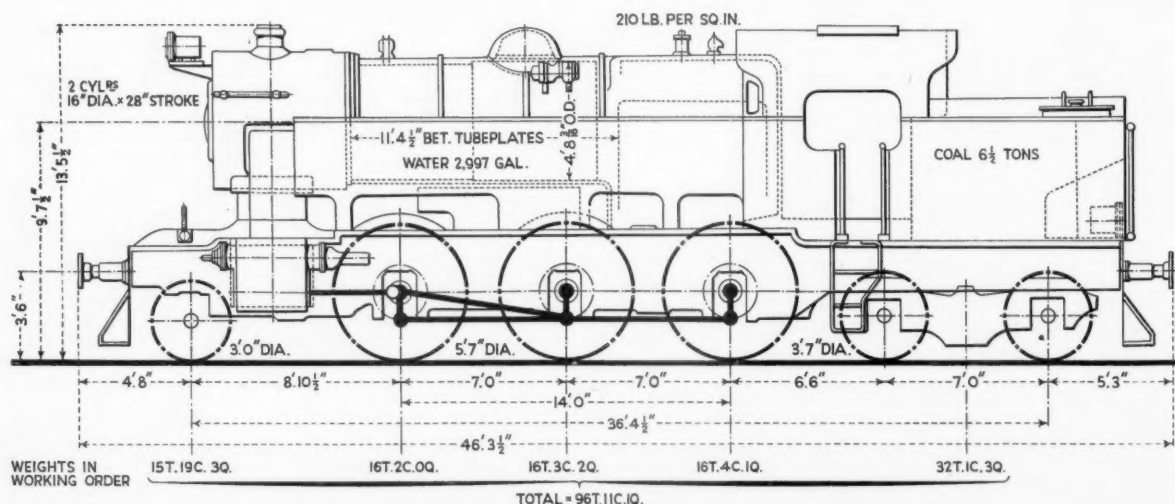
struction, whereas the side tanks of the earlier locomotives were of all-welded construction.

The principal dimensions are as follow:—

Sharpest curve	...	573 ft. radius
Maximum axleload	...	16.25 tons
Coupled wheel diameter	...	5 ft. 7 in.
Cylinders 16 in. bore × 28 in. stroke	...	
Working pressure	...	210 lb. per sq. in.
Heating surface:		
Large tubes	...	328 sq. ft.
Small tubes	...	506 "
Arch tubes	...	10 "
Firebox	...	121 "
Total evaporative	...	965 "
Superheater	...	230 "
Grate area	...	24.6 "
Tank capacity	...	2,997 gal.
Bunker capacity (coal)	...	6.5 tons
Weight in working order	...	97.15 tons
Adhesive weight	...	48.61 tons
Traction effort at 85 per cent boiler pressure	...	19,084 lb.



*Indian Railways standard "WM" class tank engine built by Robert Stephenson & Hawthorns Limited*



*Diagram showing principal weights and dimensions of the locomotive*

## RAILWAY NEWS SECTION

## PERSONAL

Brigadier C. E. M. Herbert, C.B.E., has relinquished the appointment of Director of Transportation at the War Office and has been succeeded by Brigadier G. J. Bryan, C.B.E.

Brigadier Bryan has held appointments in Transportation both at home and abroad, having been, *inter alia*, Commander 1 Railway (Home) Group, R.E., Commandant No. 1 Transportation Training Centre, India, Deputy Director of Transportation in Ceylon and N.E.I. and Director in A.L.F.S.E.A., Malaya and M.E.L.F.

Brigadier Herbert has assumed the appointment of Director of Engineer Stores, War Office, *vice* Brigadier R. Gardiner, C.B.E., and the Transportation Centre at Longmoor is now commanded by Brigadier C. H. Barnett.

Mr. H. D. Manton, Engineer, Electrical Branch, and Mr. J. H. Walmsley, Engineer, Rolling Stock Branch, both of Victorian Railways, arrived in London on December 9 on a mission principally connected with the Victorian Railways contract with the Gloucester Railway Carriage & Wagon Co. Ltd. They will stay in the United Kingdom for about two months. Mr. Manton and Mr. Walmsley are acting *vice* the late Mr. C. V. H. McDonald and the late Mr. J. Butterworth, whose deaths in an aeroplane accident on October 29 were recorded in our November 13 issue.

Mr. George B. Gray, British Railways General Agent for Eire, has been appointed President of the "Safety First" Association of Ireland. Mr. Gray, who has always been a strong supporter of the movement, is the first railway officer to hold this office.

Mr. A. Twidle, Chief Automobile Engineer, British Electric Traction Co. Ltd., is retiring on December 31 after 48 years of service with the B.E.T. organisation. It is not proposed to fill the office of Chief Automobile Engineer immediately. Until an appointment is made, Mr. F. J. Gough, who has been Mr. Twidle's Chief Assistant for some years, will be responsible to the Engineering Committee for the work of the department.

Mr. L. H. Cooper, Chairman of the Mond Nickel Co. Ltd., has been elected a Vice-President of the parent company, the International Nickel Co. of Canada Ltd. Mr. Cooper will assume the new office on January 1, 1954.

Mr. G. R. Whitehead, Manager of the Spotborough foundry, Doncaster, of John Fowler & Co. (Leeds) Ltd., has been elected a Director of the company.

Dr. Horace W. Clarke has been appointed Chairman of James Booth & Co. Ltd. in succession to Sir Bernard D. F. Docker.

Mr. N. C. Deb, who has been appointed Director of Finance (Expenditure), Indian Railway Board, was born on February 1, 1904, and was educated in the Calcutta University, taking the degree of Master of Science in 1927. He entered the service of the railways in 1928 as a probationer in the Accounts Department of the East Indian Railway, subsequently transferring to the State Railway Coal Department. He was appointed Deputy Chief Accounts



Mr. N. C. Deb

Appointed Director of Finance (Expenditure), Indian Railway Board

Officer on July 12, 1942. His services were placed at the disposal of the Finance Department (Supply), Government of India, with effect from August 9, 1944, and he was posted as Controller of Coal Accounts, Calcutta, during the period of the 1939-45 war. Mr. Deb returned to the Railway Department on February 25, 1946, as Joint Director, Finance, Railway Board. From July, 1949, to March, 1953, he was Director of Finance (Budget), Railway Board. At present he is holding the post of Director of Finance (Expenditure), Railway Board.

Mr. H. Williams, M.B.E., T.D., A.M.I.E.E., has been appointed Manager of the Worcester branch of British Insulated Callender's Cables Limited in succession to the late Mr. C. H. Panting.

Mr. Frank Perkins, Chairman & Managing Director of F. Perkins Limited, will leave this country on December 18 on a visit to India. Mr. Perkins, who is travel-

ling by sea, will probably return on January 29.

Mr. Norman Moseley, A.I.Mech.E., has been appointed a certifying officer, Ministry of Transport, in the Metropolitan traffic area. He takes up his duties on December 14.

Mr. J. R. Harding, B.Sc.(Eng.), M.I.E.E., has been appointed Assistant General Manager of Pirelli-General Cable Works Limited.

Mr. E. A. Ryder, Freight Traffic Manager, Central Region, Canadian National Railways, has been appointed Assistant General Freight Traffic Manager of the System. He has been succeeded at Toronto by Mr. E. R. Dalrymple, General Freight Agent, Central Region.

Mr. W. H. Evans, Inspecting Engineer (Construction), South African Railways, Johannesburg, has been appointed Assistant Chief Civil Engineer (Construction) of the system at Johannesburg.

Commander K. H. S. Cohen, C.M.G., has been appointed European adviser to the United Steel Companies Limited. Commander Cohen is to make a closer study of the trends in European industry and economics.

Following the appointment, recorded in our November 27 issue, of Mr. L. W. Dennis, formerly Commercial Manager, as Managing Director of Cape Asbestos (Canada) Limited, in Toronto, the Cape Asbestos Company Limited of London and South Africa announce the following appointments:—

Mr. A. G. Grant, Commercial Manager (Home).

Mr. M. H. Reid, Commercial Manager (Planning & Overseas).

Mr. M. A. F. Newton has been appointed Personal Assistant to Mr. K. C. Gray, recently appointed Director (Sales); and Mr. H. Barty-King has succeeded Mr. Newton as Publicity Manager. Mr. N. A. C. James has become Manager, Southern Area Sales, in place of Mr. Grant. Mr. P. Worledge and Mr. P. A. Denison remain in charge of "Capasco" brake lining and "Abestolux" building board sales departments respectively.

## INSTITUTION OF CIVIL ENGINEERS.

The following has become an Associate Member of the Institution:—

Mr. P. K. Newhook, c/o District Civil Engineer, Railway Department, Auckland, New Zealand.

The following have become Graduates of the Association:—

Mr. N. N. Barnett, Stud.I.C.E., c/o District Engineer's Office, British Railways, Western Region, Taunton, Somerset.

Mr. G. H. Cope, B.Sc.(Eng.) (Lond.), Stud.I.C.E., c/o Chief Engineer, Railway Department, Ebute Metta, Nigeria.



**Mr. G. S. Hussey**

Executive Officer (Administrative & Special Duties),  
Railway Executive, 1948-53

Mr. G. S. Hussey, M.B.E., M.C., A.M.Inst.T., Executive Officer (Administrative & Special Duties), Railway Executive, is retiring on December 31 after 45 years of railway service. Mr. Hussey was educated at Berkhamsted, and joined the L.N.W.R. in 1907 as a junior clerk at Campden Goods Station. Later that year he became an apprentice in the General Manager's Office, and from 1910 to 1914 he was Confidential Clerk to three Assistant Superintendents of the Line. After station experience he became Confidential Clerk to the Superintendent of the Line. After brief service in France Mr. Hussey became Outdoor Assistant to the Superintendent of the Line at Euston and later at Birmingham, becoming Chief Outdoor Assistant at Crewe in 1922. He returned to Euston in 1924 as Assistant Welfare Superintendent, and, in 1927, he became a Personal Assistant to the Vice-President, Finance & Services. In 1931 he joined the staff of the Executive Investigation Office, and, in 1933, he was appointed Assistant (Job Analysis) to the Chief Officer for Labour & Establishment. In 1936 he became Assistant Outdoor Superintendent (New Works) under the Commercial & Operating Managers. During the recent war he was Chairman of the R.E.C. Air Raid Precautions Committee throughout its existence, and was also Colonel Commander of the L.M.S.R. Home Guard. He was awarded the M.B.E. in 1941. Mr. Hussey was appointed Executive Officer (Administrative & Special Duties) to Mr. R. A. Riddles, the Railway Executive Member for Mechanical & Electrical Engineering, in 1948.

Mr. A. E. Hammett, M.Inst.T., Commercial Superintendent, London Midland Region, British Railways, who is retiring on December 31 after 48 years of railway service, is a member of the Council of the London Chamber of Commerce and a Freeman of the City of London and a Liveryman. He began his railway career in 1905 in the London city office of the London & South Western Railway, where he gained experience in all branches of goods, parcels and passenger train traffic and London cartage working. In 1913 he was transferred to the Claims Office of the London Goods Superintendent and was



**Mr. A. E. Hammett**

Commercial Superintendent, L.M. Region,  
British Railways, 1944-53

later entrusted with the duty of reorganising the company's crane tackle and rope stock to meet the demands of war traffic. In 1916 he became personal clerk to the London Goods Superintendent and, in 1917 he was made District Representative for goods station working. Two years later Mr. Hammett was appointed Outdoor General Assistant to the Goods Manager, and, in 1921, he was selected for the position of Chief Cartage Assistant. On the formation of the Southern Railway in 1923 he was engaged on special duties in connection with the co-ordination of cartage operations and traffic development. In 1930 Mr. Hammett was appointed Deputy Assistant for Road Transport, Southern Railway, and, the next year, he became Assistant for Road Transport, being promoted in 1934 to the position of Rates & Fares Assistant to the Traffic Manager. He became Assistant Commercial Superintendent in 1937 and was appointed Commercial Superintendent seven years later. Mr. Hammett was a member of the Road & Rail Central Conference set up before the last war. In 1944 he became Chairman of the Railway Executive Passenger Committee; in 1945 Chairman of the R.C.H. Coaching Traffic Superintendents' Conference and, in 1946-7 he served as Chairman of the Railway Executive Goods Committee, also the R.C.H. Goods Managers' Conference. In March, 1949, Mr. Hammett was appointed to the position of Commercial Superintendent, London Midland Region, from which he is now retiring. He is a Director of the North Western Road Car Co. Ltd., the United Counties Omnibus Co. Ltd., and the Dundalk, Newry & Greenore Railway Company, a member of the Coasting Liner Companies' Central Conference and of the Irish & British Traffic Conference. Mr. Hammett is a former member of the council of the Institute of Transport.

Mr. J. W. Vaughan has relinquished his position as Director of the Locomotive Manufacturers' Association of Great Britain. Mr. Vaughan, who is a solicitor, joined the Association as Secretary in 1934 and has played a prominent part in its wide-spread activities during the last 20 years. In the course of his duties for



**Mr. J. W. Vaughan**

Secretary, Locomotive Manufacturers'  
Association, 1934-53

the Association Mr. Vaughan has travelled in India, Pakistan, Egypt, Turkey and most European countries. On behalf of the Association he took part in negotiations with the Government of India Railway Board resulting in the Technical Aid Agreement under which the L.M.A. provides services in connection with the operation of the Chittaranjan Locomotive Works in West Bengal. More recently, he was appointed Vice-President of an International Co-ordinating Committee set up to study the practicability of standardisation of diesel locomotive traction in Western Europe. He relinquishes this appointment also together with many others he holds in the locomotive industry. In 1944 he was awarded the O.B.E. Mr. Vaughan does not intend to remain in retirement but after a rest he hopes to find outlet for employing his qualifications and experience in useful service.

The following are extracts from the Supplement dated November 3, 1953, to the *London Gazette* dated October 30:—

The Queen has been graciously pleased to confer the award of the Army Emergency Reserve Decoration upon the following officers:—

#### *Commands and Staff*

Colonel C. R. L. Rice, O.B.E. (50045).

#### *Corps of Royal Engineers*

Lt.-Colonel H. T. Bird (42053) Retired.

Lt.-Colonel (Hon. Colonel) H. L. Hopkins, C.I.E., O.B.E. (43515) Retired.

Major (Hon. Lt.-Colonel) J. Blundell (37615) Retired.

Major J. Bonham-Carter, D.S.O. (58844).

Major (Hon. Lt.-Colonel) W. G. Edmonds (71638).

Major (Hon. Lt.-Colonel) R. H. Edwards, M.I.C.E. (33286) Retired.

Major (Hon. Lt.-Colonel) C. F. E. Harvey (41758).

Major (Hon. Lt.-Colonel) L. J. M. Knotts (34221) Retired.

Major (Hon. Lt.-Colonel) H. M. Lattimer (75447).

Major F. H. Petty (41752) (now T.A.).

Major (Hon. Colonel) G. Rigby, O.B.E., G.M. (70517).

Maj. & Bt. Lt.-Colonel J. Scott, M.C. (32520) Retired.

Major (Hon. Lt.-Colonel) N. H. Sellars (91995).

Major B. B. Smith, O.B.E. (47140).

Major (Hon. Colonel) S. Stevens, M.Sc. (Eng.), M.I.C.E. (53993) Retired.

Major (Hon. Colonel) N. E. V. Viner-Brady, O.B.E., M.I.C.E. (35547) Retired.

Captain S. A. Finnis (52168) (now Major, T.A.).

Captain (Hon. Major) G. F. George, A.M.I.C.E. (96365).

#### Royal Corps of Signals

Major R. A. Green, M.B.E., A.M.I.C.E. (62008) Retired.

Major L. R. James (51341).

Lieutenant R. McMillan (95916).

The Queen has been graciously pleased to confer the award of the 1st Clasp to the Army Emergency Reserve Decoration upon the following officers:—

#### Commands and Staff

Colonel C. R. L. Rice, O.B.E. (50045).

Colonel B. M. Strouts, M.B.E. (62916).

Colonel M. B. Thomas (40573).

Colonel R. Thompson, O.B.E., M.I.Loco.E., A.D.C. (33231).

#### Corps of Royal Engineers

Lt.-Colonel H. T. Bird (42053) Retired.

Lt.-Colonel & Bt. Colonel (Hon. Brigadier) W. E. Blakey, M.B.E., M.M. (31443) Retired.

Lt.-Colonel (Hon. Colonel) H. L. Hopkins, C.I.E., O.B.E. (43515) Retired.

Lt.-Colonel (Hon. Colonel) N. McK. Jesper, D.S.O., O.B.E., M.C. (33297) Retired.

Lt.-Colonel (Hon. Colonel) L. E. Marr, O.B.E. (33298) Retired.

Major (Hon. Lt.-Colonel) J. Blundell (37615) Retired.

Major J. Bonham-Carter, D.S.O. (58844).

Major (Hon. Lt.-Colonel) A. N. Butland, O.B.E., B.Sc.(Eng.) (52760).

Major (Hon. Lt.-Colonel) A. H. Cantrell (42447).

Major E. C. Cookson, B.Sc.(Eng.), M.I.C.E. (33211) Retired.

Major (Hon. Lt.-Colonel) W. B. Draper (97335) Retired.

Major (Hon. Colonel) H. W. Ellis (40952).

Major F. H. Petty (41752) (now T.A.).

Major (Hon. Lt.-Colonel) H. F. Sanderson (32146) Retired.

Major (Hon. Colonel) L. S. Sanson (37005).

Major & Bt. Lt.-Colonel J. Scott, M.C. (32520) Retired.

Major B. B. Smith, O.B.E. (47140).

Major W. J. H. Stanier (76508).

Major (Hon. Colonel) N. E. V. Viner-Brady, O.B.E., M.I.C.E. (35547) Retired.

Captain S. A. Finnis (52168) (now Major T.A.).

#### Royal Corps of Signals

Major L. R. James (51341).

The Queen has been graciously pleased to confer the award of the 2nd Clasp to the Army Emergency Reserve Decoration upon the following officers:—

#### Commands and Staff

Colonel B. M. Strouts, M.B.E. (62916).

Colonel M. B. Thomas (40573).

Colonel R. Thompson, O.B.E., M.I.Loco.E., A.D.C. (33231).

#### Corps of Royal Engineers

Lt.-Colonel & Bt. Colonel (Hon. Brigadier) W. E. Blakey, M.B.E., M.M. (31443) Retired.

Lt.-Colonel (Hon. Colonel) H. L. Hopkins, C.I.E., O.B.E. (43515) Retired.

Lt.-Colonel (Hon. Colonel) N. McK. Jesper, D.S.O., O.B.E., M.C. (33297) Retired.

Lt.-Colonel (Hon. Colonel) L. E. Marr, O.B.E. (33298) Retired.

Major (Hon. Lt.-Colonel) J. Blundell (37615) Retired.

Major (Hon. Lt.-Colonel) A. H. Cantrell (42447).

Major E. C. Cookson, B.Sc.(Eng.), M.I.C.E. (33211) Retired.

Major (Hon. Lt.-Colonel) R. H. Edwards, M.I.C.E. (33286) Retired.

Major (Hon. Colonel) H. W. Ellis (40952).

Major (Hon. Lt.-Colonel) C. F. E. Harvey (41758).

Major (Hon. Lt.-Colonel) L. J. M. Knotts (34221) Retired.

Major F. M. Petty (41752) (now T.A.).

Major (Hon. Colonel) L. S. Sanson (37005).

Major & Bt. Lt.-Colonel J. Scott, M.C. (32520) Retired.

Major (Hon. Colonel) N. E. V. Viner-Brady, O.B.E., M.I.C.E. (35547) Retired.

Captain S. A. Finnis (52168) (now Major T.A.).

The Queen has been graciously pleased to confer the award of the 3rd Clasp to the Army Emergency Reserve Decoration upon the following officers:—

#### Commands and Staff

Colonel M. B. Thomas (40573).

Colonel R. Thompson, O.B.E., M.I.Loco.E., A.D.C. (33231).

The following are extracts from the Supplement dated December 1, 1953, to the *London Gazette* dated November 27, 1953:—

The Queen has been graciously pleased to confer the award of the Army Emergency Reserve Decoration upon the following officers:—

#### Corps of Royal Engineers

Lt.-Colonel A. F. Fielding (34275).

Lt.-Colonel M. R. Haddock, O.B.E. (75413).

Lt.-Colonel & Bt. Colonel H. A. Short, C.B.E., M.C. (43516).

Major C. O. Jenkin-Jones (104040).

Captain J. L. Bliss, T.D., A.M.I.C.E. (32988) (Hon. Lt.-Colonel, T.A., Retired).

The Queen has been graciously pleased

to confer the award of the 1st Clasp to the Army Emergency Reserve Decoration upon the following officers:—

#### Corps of Royal Engineers

Lt.-Colonel A. F. Fielding (34275).

Lt.-Colonel M. R. Haddock, O.B.E. (75413).

Lt.-Colonel & Bt. Colonel H. A. Short, C.B.E., M.C. (43516).

Major C. O. Jenkin-Jones (104040).

The Queen has been graciously pleased to confer the award of the 2nd Clasp to the Army Emergency Reserve Decoration upon the following officer:—

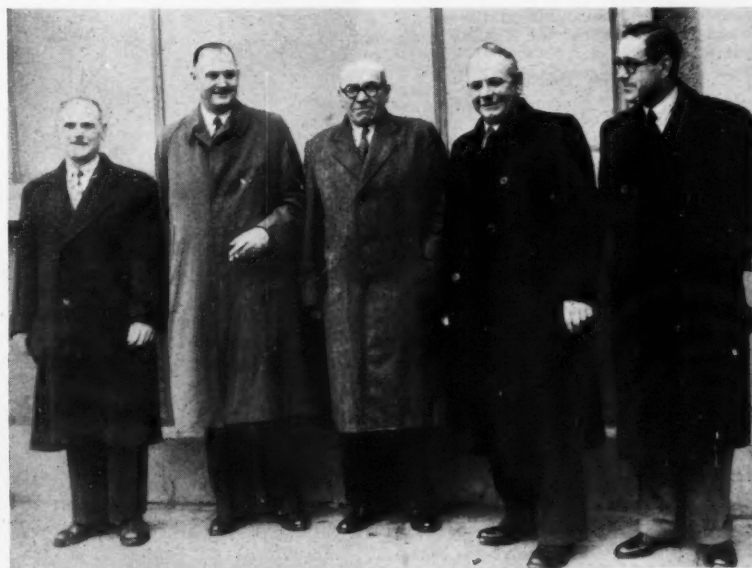
#### Corps of Royal Engineers

Lt.-Colonel A. F. Fielding (34275).

Mr. J. E. T. Watson, formerly Sales Manager, Chaseside Engineering Co. Ltd. has been appointed Sales Manager, F. E. Weatherill Limited.

Mr. J. S. Wills, Deputy Chairman & Managing Director, British Electric Traction Co. Ltd., has been elected Chairman of the Joint Air Transport Committee of the Association of British Chambers of Commerce, the Federation of British Industries, and the London Chamber of Commerce, in succession to Mr. Leslie Gamage.

On December 1, 1953, members of a visiting inspection party met at the Midland Hotel, Belfast, where they were received by Mr. G. B. Howden, Chairman of the Ulster Transport Authority and of the Great Northern Railway Board. In the party were Mr. W. P. Allen, C.B.E., Chief of Establishment & Staff, British Transport Commission, Mr. J. S. Campbell, General Secretary of the National Union of Railwaymen and Mr. G. J. Baty, General Secretary of the Associated Society of Locomotive Engineers & Firemen. Others present included a number of officers of the British Transport Commission, Ulster Transport Authority and the Great Northern Railway Board. In the morning the visiting party went from Belfast to Bangor by U.T.A. diesel train, and in the afternoon by G.N.R. diesel train from Belfast to Moira.



Mr. G. B. Howden (centre), Chairman, U.T.A. and G.N.R. Board, and Mr. J. Clarke, General Manager, U.T.A. (extreme right), with (left to right):—Messrs. G. J. Baty, General Secretary, A.S.L.E.F., J. S. Campbell, General Secretary, N.U.R., and W. P. Allen, C.B.E. British Transport Commission (see paragraph above)

## Institution of Railway Signal Engineers

### *Informal discussion on the economic aspect of railway signalling cables*

At a meeting of the Institution of Railway Signal Engineers on November 18, with Mr. T. Austin, the President, in the chair, an informal discussion on the economic aspect of railway signalling cables was opened by Mr. N. W. Russell, whose remarks were mentioned in an editorial article on this subject in our issue of December 4.

Two films were shown, one lent by British Insulated Callender's Cables Limited, dealing with the manufacture, testing, and installation of a 132-kV. impregnated cable; and the other, lent by the Telegraph & Maintenance Co. Ltd., showing the laying of a submarine cable between England and Denmark. Samples of manufactured cables were on display.

Mr. Austin expressed interest in Mr. Russell's suggestion that they had for a long time been specifying a margin of safety higher than had probably been justified and that, if the electrical specification was reduced from 660 V. to 250 V., they would have an overall saving of something like 23 per cent.

Mr. J. E. Mott drew attention to the metal sheathing for protecting buried cable, although there were, he said, cases where rubber compound cables finished with asphalt or bitumen tape were buried directly in the ground. He asked how effective were the artificial aging tests applied to cable.

Mr. R. Dell disagreed with the proposal that the safety factor should be lowered. If multi-core cable were used and the insulation failed, there would probably be a collision. The only way of reducing the insulation safety factor was to substitute something for it, that was, by screening the cable. Screening was becoming much more common and he knew of some examples with railway signalling cables. If that were done, cables could be made that would be intrinsically safe and experiments would then be possible with reduced insulation thicknesses, still at the risk of an increased number of "safety side" failures.

#### Safety Factor

Mr. L. W. H. Lowther referred to the ratio of 163 to 1 mentioned as a factor of safety; he thought that the civil engineers, who also carried quite a large responsibility for passenger traffic, took a ratio of 4 to 1.

Mr. H. J. Riddle said that if they adopted the 163 to 1 safety factor, there would be a saving of some 20 per cent, there might be more money available to extend colour-light signalling, which would contribute largely to safety operation.

Mr. F. Burton felt that they could not divorce the question of mechanical suitability from electrical suitability in their search for the safety factor. It was hard to say what the cable had to withstand from peaks of a.c., surges and inductive kicks, which produced conditions very much above 110 V. That sort of thing had been responsible for the choice of 660-V. cable.

If, as Mr. Russell had said, there was nothing like lead-rubber and neoprene not being so proof against water was lead—that suggested that there was some migration of water through the cable, although it might take a very long time. He asked what would be the relative value of that material after, say, ten years.

Continuing, Mr. Burton mentioned that

in signalling, their voltages were often very low. Tests were taken at the installation of new cables, but in periodical tests made afterwards it had been found that the insulation resistance had gone down. Little had been said about the termination of the cable and its effect on breakdown.

Mr. A. J. Hawkett, referring to the suggestion to have a cored system of identification of wires in multi-core cables instead of numbered tapes, felt that would

increase expense, because of the more highly skilled labour needed to deal with the cored system.

Mr. A. R. Brown said that it had been found that, under certain conditions, quite a voltage was produced on a signalling cable when the supply to the core concerned was disconnected. He asked whether it would worsen conditions, if they reduced the dielectric between the cores.

Mr. J. F. H. Tyler said that Mr. Dell had rather suggested that multi-core signalling cables were unsafe, unless they had a screen round each core. He did not think that was the experience on the main lines.

Mr. N. W. Russell replied to the points raised, and a vote of thanks to him was proposed by the President.

## New Chlorination Plant at Eastleigh Works

### *River water purified to a quality suitable for domestic purposes*

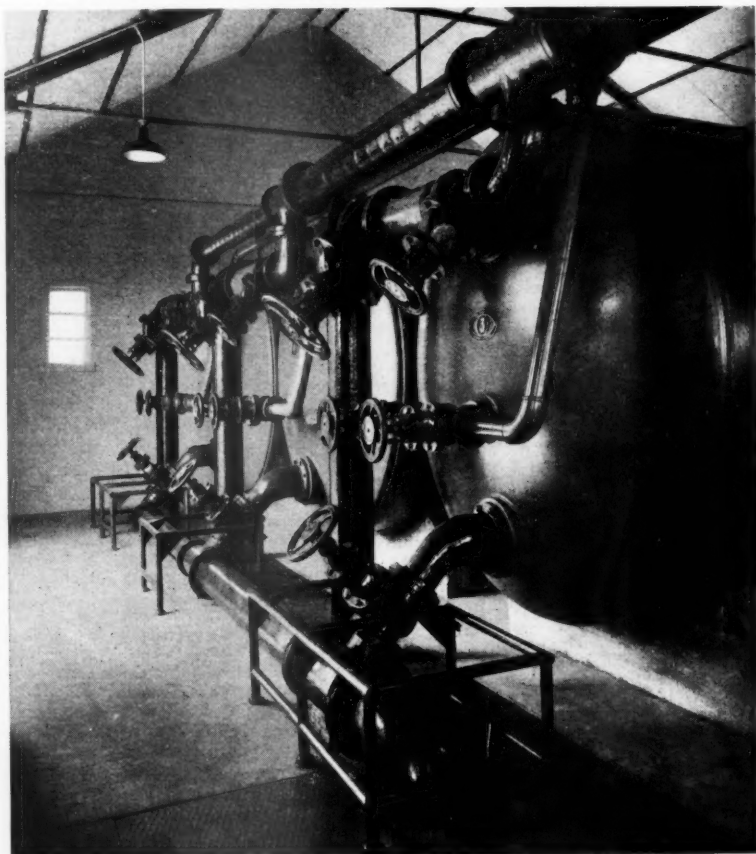
Water requirements for all purposes at Eastleigh Locomotive & Carriage & Wagon Works, Southern Region, British Railways, amount to 180 million gal. a year. Of this quantity 10 million gal., supplied by the South Hants Water Company, are used for drinking purposes. Water for domestic, locomotive and process purposes, and for some fire hydrants, is obtained from the River Itchen.

The water as obtained from the river is not entirely suitable for domestic purposes, and, upon examination, it was dis-

covered that solids in suspension silted up the lower firebox waterways in the stationary steam boilers of the works.

Bacteriological and chemical analysis of a sample of the water resulted in the decision to design and instal a water filtration and treatment plant. This would yield water of a suitable quality for domestic purposes.

The river water at Eastleigh is raised at a rate of 45,000 gal. an hour by an electrically-driven single-stage centrifugal pump located near a leat leading from the



*View of front end of horizontal filters showing pipework connections*

river. A 12-in. dia. c.i. delivery main conveys the water direct to the works' 14-in. dia. balancing main, which feeds a 114,000-gal. tank in the carriage works and a further tank of 63,000-gal. capacity in the locomotive running shed yard.

The filter and house were designed by the Civil Engineer, Southern Region. Three horizontal cylindrical steel shell pressure filters, each 8 ft. dia. x 20 ft. long, are provided. These contain pebble and sand filtering apparatus. A permanent chlorinating injection plant is also provided. A washout sedimentation tank was included to permit periodic cleansing of the filters without overloading the works drainage system. The plant, which is situated in the locomotive works, has a capacity of 45,000 gal. per hr.

Tests made during the recent completion of the new plant showed that the treated water was absolutely sterile, and of drinking quality with good colour.

Supply and erection were carried out by the Paterson Engineering Co. Ltd., London, including the filtration and electrically-driven chemical injection plants, dosing and chlorinating apparatus, interior pipework and valves. The filter house was contracted for by Brazier & Son Limited, Southampton. This company also provided foundations for the filters and formed the adjacent concrete washout sedimentation tank.

### Fast Run on L.M.R. Western Division Main Line

The special train conveying guests of Rolls-Royce Limited from Motherwell to Euston on November 20, to which reference was made on page 643 of last week's issue, was handed over late to the London Midland Region at Carlisle.

Departure from Carlisle was at 6.1 p.m., 31 min. late. The load was six coaches only, including restaurant car accommodation, and weighed just over 200 tons gross; the engine from Carlisle to London was Pacific No. 46241 *City of Edinburgh*. A "special limit" time of 162 min. was allowed over the 141 miles from Carlisle to Crewe, and from there an "XL limit" timing of 155 min. for the 158.1 miles to Euston.

From Carlisle to Shap Summit the climb of 31.3 miles was completed in the remarkable time of 33 min., 13 min. being regained over this stretch alone. Signal checks at Tebay and Low Gill meant only 1 min. regained from Shap Summit to Lancaster, but the 18 min. for the 21 miles from Lancaster to Preston, passed very slowly, was unusually fast. By passing Preston, 90.1 miles from Carlisle, in 83 min., the driver had already recovered 18 min.

At Weaver Junction, 124.8 miles in exactly 2 hr., the train was 6 min. late only, but a signal stop at Copenhall Junction resulted in arrival at Crewe 11 min. late, 141.0 miles in 142 min. from Carlisle.

From Crewe the re-start was 12 min. late. Despite p.w.s. the train was only 3 min. late through Rugby having covered the 33.7 miles from Lichfield in 27 min.

#### Rapid Ascent to Tring

After further p.w.s. through Kilsby Tunnel and at Castlethorpe, 11 min. only was taken for the 15 miles from Blechley up to Tring, where the arrears had been reduced to 1 min.

At Watford Junction an unscheduled stop was made to set down some of the party, the 140.7 miles from Crewe to this point having been run in 131 min. A

start-to-stop run of 18 min. over the 17.4 miles to Euston completed an actual time of 294 min. over the 283.1 miles from Carlisle.

The net times of about 133 min. for the 141 miles from Carlisle to Crewe, and 136 min. for the 158.1 miles from Crewe to Euston (29 min. and 19 min. respectively, less than schedule) were the fastest achieved since 1939, and well under the allowance of the prewar "Coronation Scot," though with two-thirds only of the latter train's normal load.

### Supervision of Steel Prices

The Iron & Steel Board on December 8 assumed full responsibility for supervising the prices of iron and steel products. No changes in existing schedules are to be made for the present, with some minor exceptions.

Mr. Duncan Sandys, Minister of Supply, announcing in a Parliamentary written reply on December 7 his decision that the time had come for the board to assume this duty, stated that under Section 8 of the Iron & Steel Act, 1953, the Board was empowered to fix the maximum prices which might be charged in the United Kingdom by iron and steel producers. Section 10 of the Act provided that the Board might not exercise these powers in respect of any product the price of which was being controlled by the Government. Therefore, he said, to put the Board in a position to exercise its responsibility for the supervision of prices, he had made an order bringing to an end all existing iron and steel prices orders.

The Iron & Steel Board has informed the Minister that it intends forthwith to fix maximum prices covering about the same range of products as those at present controlled.

### Enlargement of Aldenham Works, London Transport

Postwar increases and improvements in passenger services, as well as the introduction of 800 additional buses to replace the South London trams, have brought the fleet of London Transport buses and coaches to the unprecedented total of 8,000. As it was apparent that Chiswick Works could not provide a capacity adequate to deal with so large a fleet, let alone future expansion, the decision was taken a year or two after the war to seek additional accommodation elsewhere. To relieve pressure on Chiswick Works meanwhile, the new Aldenham railway depot, built in 1939 for the projected extension of the Northern Line from Edgware to Bushey Heath and used during the war as an aircraft factory, was turned over to bus work pending a decision on the future of this extension.

Aldenham Depot then became responsible for the repair of all postwar bus bodies, as well as the important conversion of prewar "STL" type double-deckers to postwar standards. Other tasks undertaken included the acceptance of new vehicle deliveries from the manufacturers, equipping them with destination-blinds, fare-boards, advertisements, etc., and final inspection and licensing for public service. In addition, Aldenham took over the maintenance of the fleet of miscellaneous vehicles, ranging from motor-cycles to mobile canteens.

The subsequent abandonment of the

Bushey Heath extension scheme meant that London Transport now had available a suitable permanent site, with the buildings to form the nucleus of the ultimate requirement for a factory of the type envisaged. As a search had failed to produce a better site, Government approval was obtained for the development of Aldenham as a bus repair factory.

Completion of the programme, scheduled for the Spring of 1955, will lead to the long-desired division of functions between Aldenham and Chiswick whereby the vehicles themselves will be exclusively handled at the more commodious Aldenham premises, leaving the smaller works to act solely as a units-and-parts factory serving both Aldenham and the various garages.

The new Aldenham Works have been designed to the requirements of the Chief Mechanical Engineer (Road Services) by London Transport architects, and the work is being carried out under their supervision by Tersons Limited, the contractors.

### Mr. John Elliot Visits Paris Metro

Mr. John Elliot, Chairman of the London Transport Executive, on his recent visit to Paris to introduce Mr. Frank Pope, Member of the British Transport Commission, his successor as a Vice-President of the International Union of Railways and to bid farewell to his colleagues, the General Managers of the various Continental railways, took the opportunity of calling on Monsieur Georges Ricroch, Chairman of the board of the Régie Autonome des Transports Parisiens, and also met Monsieur Louis Devillers, General Manager of R.A.T.P., and Monsieur Langevin, General Manager of R.A.T.P. railways.

Mr. Elliot then spent the morning with the latter, visiting the Métro system, including the new St. Lazare Station and the control room there, and travelling in the motorman's cab of one of the new trains on Line 13 to Carrefour Pleyel.

He also visited the Cité Universitaire Station on the south side of Paris, where he saw a maintenance depot and a substation. This is the point where the Ligne de Sceaux comes to the surface and runs over the former S.N.C.F. tracks.

Mr. Elliot also saw one or two of the combined road/rail stations, and travelled in the latest "P.C." type diesel bus, which operates on a circular route in Paris.

**B.I.C.C. LIMITED: FURTHER EDUCATION SCHEME.**—At the annual presentation on November 27 of prizes to employee-students of the Anchor Works at Leigh, Lancashire, of British Insulated Callender's Cables Limited who have attended courses of local municipal technical colleges during the past year, under the company's further education scheme, it was stated that 117 employees had attended courses; of this number 84 passed their examinations and six were non-examination courses, and of the 21 employees who qualified for awards under the scheme, two had received ordinary National Certificates, four Higher National Certificates, and one a B.Sc. The awards were presented by Mr. F. Waite, Director of B.I.C.C. Limited, who congratulated the students on having a good start, but pointed out that it was more important that they should be good finishers.

## Parliamentary Notes

### Transport of Livestock

Mr. Eric Johnson (Manchester, Blackley—C.) in the House of Commons on December 3 inquired whether the Minister of Agriculture, would consider appointing a committee to investigate conditions governing the transport of horses and other livestock by road, rail, and sea.

Sir Thomas Dugdale replied that the transport of animals was regulated by comprehensive Orders and that relating to horses was amended in 1951 to give effect to the recommendations of the Rosebery Committee. He was not aware that these Orders were unsatisfactory or that there was any need for any further investigation, but he was prepared to look into any points that Mr. Johnson might bring to his notice.

Mr. Gerald Williams (Tonbridge—C.) asked if these orders applied to road and sea. He said he gathered that the rail ones were satisfactory, but he was not sure whether there were any orders for road and sea. Sir Thomas Dugdale said he thought that was the case, but at present the orders did not apply to the air.

## Questions in Parliament

### Automatic Train Control

Asked on December 2 by Mr. A. J. Champion (Derbyshire S.E.—Lab.) if his Chief Inspecting Officer had now satisfied himself that the equipment installed between Barnet and Huntingdon for automatic train control, was sufficiently reliable to enable him to authorise to the B.T.C. its extension to sections of British Railways not now covered by this safety device; Mr. Alan Lennox-Boyd (Minister of Transport & Civil Aviation) wrote in reply: Not yet.

### Loss of "Princess Victoria"

Captain L. P. S. Orr (Down S.—U.U.) on December 2 asked whether the Minister

of Transport & Civil Aviation, in view of the fact that the appeal of the B.T.C. against the findings of the inquiry into the loss of the *Princess Victoria* had been dismissed, was now in a position to make a further statement.

Mr. Alan Lennox-Boyd in a written reply stated that the judgment of the Lord Chief Justice of Northern Ireland on the appeal of the Commission relating to the loss of the *Princess Victoria* was being carefully examined by the Commission.

The Minister continued: As a result of the tragic disaster to the *Princess Victoria* it is clear that the load line rules which govern the provision of arrangements for freeing water should be amended, and I hope shortly to consult the organisations representing the shipping industry about the necessary revision. Meanwhile a great deal of preparatory work has been done.

The arrangements for search and rescue at sea are also under review, and discussions with other Government departments are being held in regard to this. The other interested organisations will also be consulted.

## Staff & Labour Matters

### Tribunal Decision on Railway Wages

The Railway Staff National Tribunal published on December 3 its decision (No. 15) on the claim of the three railway trade unions for a 15 per cent increase in the rates of pay of railway salaried and conciliation staff.

The Decision of the Tribunal, which is signed by Sir John Forster, Q.C., as Chairman, Sir Percy Mills, nominated by the British Transport Commission, and Sir Luke Fawcett, nominated by the railway trade unions, is as under:—

"The Tribunal finds that as from the commencement of the first full pay week following December 3 the existing rates of pay of conciliation staff and railway salaried staff covered by the machinery

of negotiation should be increased by 4s. a week for adult males with proportionate increases for adult females, junior males, and junior females."

The main arguments advanced by the three railway unions in support of their claims are summarised in the decision as follows:—

(1) The increase in rates of pay now claimed is justified by the continuing rise in the cost of living.

(2) Wages and salaries paid to railwaymen do not compare favourably with those paid to workers in other industries.

(3) Existing rates of pay of railwaymen are inadequate having regard to the nature and responsibility of the work, the importance of the railways to the nation and the need to attract and retain the right type of staff.

(4) Railwaymen have a right to share in the financial savings resulting from economy measures and increased efficiency.

The main arguments advanced on behalf of the B.T.C. are summarised as under:—

(1) The change in the cost-of-living since the last increase in pay was granted to railwaymen does not justify the claims for a further improvement in the rates of pay of railway salaried and conciliation staff.

(2) Rates of pay of railway staff are reasonable in relation to the rates of pay in industry generally.

(3) Existing rates of pay of railway staff are adequate in relation to the responsibilities involved.

(4) Railway staff are already receiving a share in the financial savings of the railways since the effect of increased efficiency and economy is reflected in the present level of rates of pay.

### Acceptance by B.T.C.

The Commission has announced its acceptance of the award.

The executive committees of the unions concerned have each met to consider the tribunal decision and a joint meeting of the leaders of the three unions was arranged for December 10 to discuss the findings.

### Engineering Workers' Pay Claim

After the 24-hr. strike amongst engineering workers on December 2 in protest at the rejection of their pay claim for a 15 per cent increase in rates of pay, the Amalgamated Engineering Union decided on December 3 to recommend a ban on overtime and piecework as a next step.

The situation was to be considered by the C.S.E.U. executive at a meeting to be held in York on December 10.

## Modern Decor in British Transport Hotel



New bar at the Zetland Hotel, Saltburn, British Transport Hotels & Catering Services; the top of the bar is of red, and the strip below of bird's-eye maple finish Waverite; the contractors were W. Mason & Son Ltd.

TRANSFER OF WAGONS TO B.T.C. NOT "SALE".—The Court of Appeal on December 2 dismissed with costs an appeal by the Crown from a decision of Mr. Justice Upjohn on April 29, 1953, in favour of John Hudson & Co. Ltd., coal merchants, and held that the transfer of railway wagons from the company to the B.T.C. under section 29 of the Transport Act, 1947, with compensation paid in the form of British Transport stock, did not constitute a "sale" for the purposes of Section 17 of the Income Tax Act, 1945. When the company appealed to the Special Commissioners against the income-tax assessment for 1948-49, which included £29,021 balancing charge in respect of 663 wagons concerned in the transfer, the appeal was dismissed, the Commissioners holding that the transfer was a sale. The company was successful when it appealed to Mr. Justice Upjohn, who held there was no sale.

## Contracts & Tenders

British Railways, North Eastern Region, have placed an order with Ransomes & Rapier Limited, Waterside Works, Ipswich, for one Rapier 7 standard diesel-electric mobile crane for use at Hull.

British Railways, Eastern Region, have placed contracts as under:—

George Simpson (London), London, S.W.1: renewal and repairs to station roof at Sheffield Midland Station

R. Ridd & Son (Contractors) Ltd., Hornchurch: cleaning and painting of warehouse, loading bank, etc., at Bishopsgate Goods Depot

John I. Thornycroft & Co. Ltd., Southampton: modifications to first and second class passenger accommodation, etc., on ss. *Arnhem*

Cleveland Bridge & Engineering Co. Ltd., Darlington: reconstruction of superstructure of underline bridge No. 75 over River Witham between Lincoln St. Marks and Hykeham

W. R. Payne & Sons, Shipley, Yorks: cleaning and painting of station buildings, etc. and bridges between Pitsea Junction and London side of Southend-on-Sea Central Station

Bernard Pumfrey Limited, Gainsborough: construction of new accommodation for engine-men at Lincoln (G.N.) Motive Power Depot

Orders amounting to \$459,370 for automatic electric signalling equipment have been placed by the Canadian National Railways. Of the two orders placed with the General Railway Signal Company, Rochester, New York, one is for a centralised traffic control system between Hawthorne and South March, near Ottawa, in connection with the relocation of tracks at Ottawa. The second order is to provide automatic block signals along the 64 miles between Jackman and Blue River, British Columbia.

The Canadian National Railways have placed orders with the National Steel Car Corporation for 30 baggage vans, and the Eastern Car Company for 15 30-ton steel stock wagons for use in Newfoundland, and 15 50-ton air dump wagons. The total cost is approximately \$2,684,500.

Tenders for the supply of locomotive boilers are invited by the High Commissioner for India. See Official Notices on page 671.

The Special Register Information Service of the Export Services Branch, Board of Trade, reports that the United Kingdom Trade Commissioner at Johannesburg has notified a call for tenders (No. B. 1661) issued by the Stores Department of the South African Railways, for 250 pinions 17 teeth, 5.045 in. bore (roller bearing motor) to drawing L. 9511 Item 2.

The closing date for receipt of tenders is 9 a.m. on January 7, 1954. Tenders should be enclosed in a sealed envelope endorsed, "Tender No. B. 6161: For Electric Units and Motor Coaches," and addressed to the Chairman of the Tender Board, P.O. Box 7784, Johannesburg.

Tenderers offering goods for import are required to quote both for delivery F.O.B. and free on rail, in bond, and are also required to state what proportion of the goods (if any) could be supplied against their own import quotas.

The drawing referred to above may be obtained from the office of the Chief Stores Superintendent, Room 209, Park Chambers, Rissik Street, Johannesburg, on payment of 2s. 6d. a print, or may be inspected at the office of the High Commissioner for the Union of South Africa, Trafalgar Square, London, W.C.2.

One copy of the specifications and conditions of tender, without the drawing, may be inspected in Room 801 at the Branch (Lacon House, Theobalds Road, W.C.1.) until December 14, after which date it will be available for loan to United Kingdom firms in order of receipt of application.

The United Kingdom Trade Commissioner at Melbourne has notified the Export Services Branch, Board of Trade, of a call for tenders (No. M.E. 1327), issued by the Commonwealth Railways for the supply and delivery of diesel-electric locomotives.

The locomotives are to be of the double bogie type with three axles per bogie and every axle must be motorised to take maximum advantage of adhesion. The locomotives will be required to operate all classes of trains over any portion of the Trans-Australian Railway or Stirling North-Leigh Creek Coalfield Railway. Service conditions are as follows:—

Gauge	4 ft. 8½ in.
Weight of rail	80 lb./yd. F.B.
Maximum axle load	19 tons
Bridge loading	Cooper's E.50
Limits of rolling stock construction	Drawing No. D.P. 5653
Minimum curves (main line)	20 ch. radius
Minimum curves (slow speed in yards)	7 ch. radius
Ruling gradient	1 in 90 (all gradients are compensated for curvature)
Maximum altitude	1,400 ft. above sea level

The diesel-electric or diesel-hydraulic locomotives offered must be suitable for operation either singly or in multiple as required and shall be constructed to permit operation from one end, similar to the 4-ft. 8½-in. gauge diesel locomotives at present in operation on the Trans-Australian Railway. The locomotives must be capable of being operated continuously at a minimum speed of not more than 10 m.p.h. and a maximum speed of 80 m.p.h.

Two of the locomotives offered under tender when operated as a multiple unit shall be capable of hauling a trailing load of 5,180 tons of 80 bogie vehicles behind the locomotive, over a ruling grade of 1 in 180, at a speed of not less than 10 m.p.h. The approximate length of this trailing load behind the locomotives operating in multiple will be 3,800 ft.

The closing date for the receipt of tenders is 10 a.m. on January 12, 1954, and tenders should be addressed to the Office of the Secretary, Commonwealth Railways, 623, Collins Street, Melbourne, C.1. Tender prices must be in Australian currency, and preference may be given to the tenderer who guarantees earliest delivery.

One copy of the conditions of tender and specification is available for loan in order of receipt of application to the Branch at Lacon House, Theobalds Road, W.C.1.

The United Kingdom Trade Commissioner at Melbourne has notified the Board of Trade, Export Services Branch, of a call for tenders (Schedule No. 60048) issued by the Victorian Railways for 104 bogies complete with (a) plain bearings, (b) roller bearings, and spare parts as indicated by tenderer.

The bogies are required for installation under express louvre box wagons and will be required to run on passenger trains at speeds up to 70 m.p.h. They should be designed with a wheel base of approximately six feet and be of the four-wheel, floating bolster type with clasp brakes, and equipped with plain or roller bearing axles.

The design should be such that the weight

of all parts shall be kept to the minimum consistent with the required strength. The spring arrangement should give the best riding conditions at all speeds. The bogie frame and bolster should be designed to withstand a centre plate load of 55,000 lb., and, in addition, loads induced by brake and deceleration forces. The bogie frame and bolster should be of cast steel heat-treated, and the tenderer should supply full details of the physical properties of the material used in the castings.

The bogies should be designed for a 5 ft. 3 in. gauge track but should be suitable for subsequent modification for use on a 4 ft. 8½ in. gauge track. The design should provide sufficient metal on axle wheel seats to allow of wheels being pressed in to suit 4 ft. 8½ in. gauge and also provide for clearance between wheels, bogie frame and wagon underframe members under all service conditions at 4 ft. 8½ in. gauge.

The closing date for receipt of tenders is 11 a.m. on January 20, 1954. Tenders should be addressed to the Secretary for the Victorian Railways, Room 191, Railway Administrative Office, Melbourne, C.1. One copy of the specifications and conditions of tender is available for loan to United Kingdom firms in order of receipt of application to the Branch, at Lacon House, Theobalds Road, London, W.C.1. An additional copy of the specifications only, is also available for loan.

The Special Register Information Service, Export Services Branch, Board of Trade, reports that the British Embassy at Cairo has notified a call for tenders issued by the Ministry of Finance, Survey Department, Giza (Orman), Egypt, for the supply of new or secondhand rails, or for both, particulars of which are given below:—

200 light rails: 11 kg. per rail; length 1·10m. Allowance permissible in weight and length not to exceed 5 per cent

1,400 heavy rails: 27·30 kg. per rail, length 1·20 to 1·30m. No allowance permitted in weight and length

[One end of the rail should be reasonably smooth and not have jagged edges. The cutting should be at right angles to the length of the rail. The ordinary methods of cutting (by mechanical shears, sawing, acetylene or hand cutting) are suitable, provided the above conditions are fulfilled]

The rails should be thoroughly cleaned from rust and well tarred. The weight referred to above, or offered for, includes tarring

Section-bull or flange. The tenders should be accompanied by a rough sketch of the rails offered

The rails are required for boundary marking purposes

The closing date for receipt of tenders is noon on December 19. Tenders should be sent to the Surveyor General, Survey Department, Giza (Orman), Egypt, from which address the tender documents may be purchased for 30 piastres a set.

If secondhand rails are offered they should be in good condition. Pieces which are twisted, cracked, badly chipped, rusted, or damaged will not be accepted.

The Special Register Information Service, Board of Trade, Export Services Branch, reports that the United Kingdom Trade Commissioner at Karachi has notified a call for tenders for the supply of 14 broad-gauge diesel railcars and 24 trailer carriages for the North Western Railway.

The railcars will be required to operate day and night services on sections of the North Western Railways situated in areas subjected to frequent, heavy and prolonged

dust and sand storms, during which the atmosphere is densely charged with fine suspended particles which, if not adequately protected against, will enter all parts of the railcars and trailers.

The railcars will be required to freely negotiate a curve of 573 ft. radius without gauge widening and with two trailers attached; weight on each axle in working order and fully loaded must not exceed 13 tons. The cars are intended to run singly as well as with one or two trailers attached; they should be capable of hauling two trailers with an approximate capacity of 100 passengers each.

The guaranteed speed of the railcar with two trailers attached, fully loaded, should not be less than 55 m.p.h. on the level, with an opposing wind of 5 m.p.h. The railcars as well as the trailer should have seating for not less than 100 third class passengers calculated on a width of 19½ in. per passenger (sixteen passengers may be taken as equal to one ton inclusive of luggage). The railcar and trailer should each have two single unit lavatories. Each railcar shall have two drivers' cabs situated one at each end.

A copy of the tender notice and full specification may be obtained on loan to U.K. firms on application to the Branch, at Lacon House, Theobalds Road, London, W.C.1.

The closing date for receipt of tenders is noon on January 9, 1954. It is understood that tenders will be considered only from firms who already have similar vehicles in successful service.

**WELDING DESIGN COURSE.**—Following its usual custom, the Constructional Design Department of the Quasi-Arc Co. Ltd., has arranged a further design course on the design of welded structures, beginning on January 5 at the Institute of Marine Engineers, the Minories, London, E.C.3; the lectures will be held on Tuesday and Thursday evenings from 4.30-6 p.m. over a period of seven weeks. Details are obtainable from the Constructional Design Department, the Quasi-Arc Co. Ltd., Bilston, Staffs.

## Notes and News

**Demonstrator Instructor Required.**—Applications are invited for the post of demonstrator instructor required urgently in India for training of apprentices in technical school and workshops at Chittaranjan locomotive works, West Bengal. See Official Notices on page 671.

**Vacancy for Draughtsman.**—Applications are invited for the post of draughtsman required by the East African Railways & Harbours Administration, Mechanical Department, for one tour of 40 to 48 months in the first instance with prospect of permanency. See Official Notices on page 671.

**Vacancies in India.**—Wanted urgently in India for modern locomotive works at Chittaranjan, West Bengal, experienced ratefixers for boiler shop, fitting & erecting shop, foundry, and smithy & forge, and machine tool demonstrators for heavy section, light machine shop, and grinding machines. See Official Notices on page 671.

**London Midland Region (London) Orchestral Society, British Railways Christmas Concert.**—The annual Christmas Concert of the London Midland Region (London) Orchestral Society, will be held tonight, December 11, in the Large Hall, Friends House, Euston Road, N.W.1. The doors will be opened at 6.45 p.m. and the concert commence at 7.15 p.m. Miss Mavis Elmitt will give a pianoforte recital of Saint Saens Concerto No. 2 in G. Minor (Op. 22), and the Watford Ladies Choir will give a selection of part songs and carols. Mr. John Grindley is hon. conductor of the orchestra and the leader is Mr. George Elmitt.

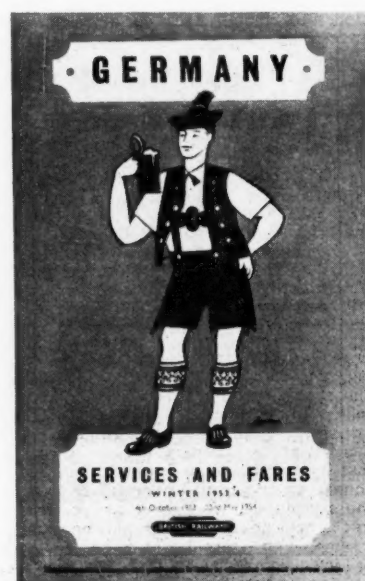
**New Presentation of Services and Fares Tables.**—The Southern Region of British Railways has continued its policy of providing services and fares tables with attractively-designed covers. Front covers of tables issued for the period May 17-October 3 inclusive bore appropriate drawings showing view of Paris, Havre and

the Riviera. The current series of booklets covering the winter term from October 4 to May 22 inclusive carry boldly presented drawings of figures in the traditional dress of the country concerned against a vivid coloured background. Three examples from the range are illustrated on this page.

**Welding Engineer Required in India.**—A welding engineer is required in India for locomotive workshops at Chittaranjan, West Bengal. Candidate must be practical expert in modern welding technique and be proficient in all branches of welding, including the use of automatic welding machines. See Official Notices on page 671.

**Railway Students Association.**—Arrangements have been made, through Mr. C. K. Bird, Chief Regional Manager, British Railways, Eastern Region, for a visit to be made by the Railway Students' Association to Bishopsgate Goods Depot on the afternoon of Tuesday, January 5, 1954. Details of time and place of meeting will be given later.

**B.S.F.A. Vice-Chairman's Pledge on Foreign Competition.**—An undertaking that the British steel castings industry will do all possible to help its customers to meet the threat of foreign competition was given by Mr. F. N. Lloyd, the Vice-Chairman, at the recent biennial dinner of the British Steel Founders' Association at Claridge's Hotel, London. British steel castings compete in price with those of any other country in the world, he said, except Germany, in the case of which some people thought the competition unfair. Mr. Lloyd, who is Chairman & Managing Director of F. H. Lloyd & Co. Ltd., said that production by the British steel castings industry last year of some of the most highly developed metal products the world had ever seen had represented a turnover of £25,000,000. Those present included Sir Percy Mills, President, Engineering & Allied Employers' National Federation; Sir Harry Pilkington, President, Federation of British Industries; Sir Brian Robertson, Chairman, British Trans-



Reproductions of coloured covers for winter services and fares tables produced by the Southern Region, British Railways

*The engagement of persons answering Situations Vacant advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18-64 inclusive or a woman aged 18-59 inclusive unless he or she, or the employer, is exempted from the provisions of the Notification of Vacancies Order, 1952.*

**DRAUGHTSMEN**, junior, with some experience in the preparation of engineering drawings for reproduction. Good lettering essential. London area. Five-day week. Write, stating age, experience and salary required, to Box 2, *The Railway Gazette*, 33, Tophill Street, London, S.W.1.

**WANTED URGENTLY IN INDIA** Demonstrator Instructor for training of apprentices in Technical School and Workshops at Chittaranjan Locomotive Works, West Bengal. Should be able to give practical demonstration in the School Workshop and to lecture clearly on practical elementary engineering in general, correct use of hand tools, and understanding of all machinery processes. Applicants should have some or all of the following: (a) apprenticeship and practical experience of mechanical engineering, (b) equivalent of Higher National Certificate, (c) experience in teaching mechanical engineering and ability to compile curriculum for their training, and (d) locomotive building or repair experience, although this is not essential. Salary: MARRIED—£900 p.a. (taxable) plus tax free allowance of £1,025 p.a. with additional allowances for children. SINGLE—£900 p.a. (taxable) plus free tax allowance of £635 p.a. Free furnished accommodation, free medical expenses, free first class return passages. Kit allowance. Contract for two years with possible extension. Application forms obtainable from Commonwealth Relations Office, Room M.S., 41, Downing Street, London, S.W.1.

**BOUND VOLUMES.**—We can arrange for readers' copies to be bound in full cloth at a charge of 25s. per volume, post free. Send your copies to the SUBSCRIPTION DEPARTMENT, Tophill Press Limited, 33, Tophill Street, London, S.W.1.

port Commission; Viscount Davidson, President, Engineering Industries Association; Mr. H. Yates, President, Association of British Chambers of Commerce; and Sir Archibald Forbes, Chairman, Iron & Steel Board.

**Railway Students' Association Dinner.**—The annual dinner of the Railway Students' Association, London School of Economics & Political Science, was held at the London Transport (South Kensington) Club on December 2. A reception by Mr. David Blee, President of the Association and Chief of Commercial Services, British Transport Commission, preceded the dinner, at which the toast "The Ladies and Visitors" was proposed by Mr. Blee and responded to by Mr. B. W. C. Cooke, Editor, *The Railway Gazette*. Mr. S. E. Bellamy, Chairman of the Committee of the Association, speaking on behalf of the members, thanked Mr. Blee for presiding. The dinner was followed by dancing and a social evening.

**British Railways Apprentices at Schoolboys' Exhibition.**—During the fortnight of the Schoolboys' Own Exhibition, which opens at the Royal Horticultural Hall, Westminster, on December 31, 22 trainee apprentices and eight instructors from the British Railways Locomotive and Carriage & Wagon Works Training Schools at Derby will be seen engaged in wood-working, moulding, metal-working, painting, and practising other crafts required in the railway industry. A lathe, drilling machine, smith's hearth, furnace, and benches are being brought from Derby so that apprentices may continue with their courses of practical instruction as part of the exhibition. Under the eye of visitors to the exhibition, the boys will be making a complete 4½-in. centre lathe, a small drilling machine, and a model locomotive, besides smaller items. Tools already made in the schools and used for fitting and turning, sheet-metal working, moulding

## OFFICIAL NOTICES

**WANTED URGENTLY IN INDIA** for modern locomotive works at Chittaranjan, West Bengal, experienced RATEFIXERS for (a) boiler shop, (b) fitting and erecting shop, (c) foundry and (d) smithy and forge, and MACHINE TOOL DEMONSTRATORS for (a) heavy section, (b) light machine shop, and (c) grinding machines. Applicants must have wide practical knowledge of their trades. Locomotive experience preferable but not essential. Salary: MARRIED—£750 p.a. (taxable) plus free allowance of £850 p.a. with additional allowances for children. SINGLE—£750 p.a. (taxable) plus tax free allowance of £500 p.a. Free furnished accommodation, free medical expenses, free first-class return passages. Kit allowance. Contract for two years with possible extension. Further details with application forms obtainable from Commonwealth Relations Office, Room M.S., 41, Downing Street, London, S.W.1.

**DRAUGHTSMEN**, age under 30, required by British Railways, in London. Must have completed National Service and have had Workshop training experience in light Electrical and Mechanical designs desirable. Ordinary National Certificate. Certain Residential and other travelling facilities. Superannuation scheme. Apply in writing only, stating experience, to Signal & Telecommunications Engineer, British Railways, London Midland Region, Euston House, Eversholt Street, London, N.W.1.

**THE High Commissioner for India** invites tenders for the supply of 3 Narrow Gauge—2 ft. 0 in. Locomotive Boilers, "B" Class. Forms of tender may be obtained from the Director General, India Store Department, 32-44, Edgware Road, London, W.2, at a fee of 10s. which is not returnable. Tenders are to be delivered by 2 p.m. on Friday, January 29, 1954. Please quote reference DO.5560/52.

**GUAQUI LA PAZ RAILWAY.** Assistant accountant. Qualifications: Man who has passed intermediate examination of recognised accountancy body preferred. Knowledge of railway accounts an advantage. Preferably single between 28/35 years of age. Apply SECRETARY OF THE PERUVIAN CORPORATION, 144, Leadenhall Street, London, E.C.3.

**DRAUGHTSMAN** required by the EAST AFRICAN RAILWAYS AND HARBOURS ADMINISTRATION, Mechanical Dept. for one tour of 40/48 months with prospect of permanency. Salary, etc., according to age in the scale £702 rising to £823 a year. Outfit allowance £30. Separation allowance payable in certain circumstances. Free passages. Free quarters or an allowance in lieu. Liberal leave on full salary. Candidates must be between 23 and 35 years and should have served a five year apprenticeship in a railway locomotive workshop or with a firm of locomotive manufacturers and have had subsequent experience as a draughtsman in locomotive design. Experience in a carriage and wagon drawing office would be an advantage. Technical qualifications to Higher National Certificate standard is desirable. Preference will be given to applicants who are Associate Members or students of either or both of the Institution of Production Engineers and Engineering Draughtsmen and Designers. Write to the Crown Agents, 4, Millbank, London, S.W.1. State age, name in block letters, full qualifications and experience and quote M2B/30136/RA.

**WELDING ENGINEER REQUIRED URGENTLY IN INDIA** for modern locomotive workshops at Chittaranjan, West Bengal. Must be practical expert in modern welding technique and be proficient in all branches of welding, including the use of automatic welding machines. Must also be prepared to give instruction and practical demonstration to welders in workshops and to apprentices in Works' Technical Training School. Salary: MARRIED—£900 p.a. (taxable) plus tax free allowance of £1,025 p.a. with additional allowances for children. SINGLE—£900 p.a. (taxable) plus tax free allowance of £635 p.a. Free furnished accommodation, free medical expenses, free first class return passages. Kit allowance. Contract for two years with possible extension. Application forms obtainable from Commonwealth Relations Office, Room M.S., 41, Downing Street, London, S.W.1.

**N.E.R. HISTORY.**—Twenty-Five Years of the North Eastern Railway, 1898-1922. By R. Bell, C.B.E., Assistant General Manager, N.E.R. and L.N.E.R. Companies, 1922-1943. Full cloth, 8vo, 87 pages, 10s. 6d.—*The Railway Gazette*, 33 Tophill Street, London, S.W.1

and casting and other work will be on display. The object of the exhibit is to give schoolboys, parents, and schoolmasters visiting the exhibition an insight into the training arrangements for apprentices in British Railways workshops. A careers counter will be included, at which advice and literature on careers in the railway service will be available.

**There and Back in One Day.**—At the ticket and inquiry office at 110, Victoria Street, London, S.W.1, British Railways are

featuring a window display based on a poster recently exhibited at many stations in the London area. The centrepiece is a white clock face with a black minute hand. At each of the twelve five-minute indications the name of a station in the Provinces is shown in the British Railways standard totem, with the length of time which can be spent in these industrial centres after travelling from the London terminus, before returning to London the same day. Cut-outs in hardboard of express trains in standard livery are mounted below the



Window display at British Railways ticket and inquiry office in Victoria Street, London, featuring the convenience of railway travel for return journeys in one day to principal provincial destinations

clock. Suspended from the ceiling is a cardboard sign "Time for Business There and Back in One Day." On the extreme right of the window is a circular stand showing some of the publications such as timetables, booklets on rambling and so on, which can be purchased at this office. At night, the whole display is illuminated by special lighting. It was designed by Bertha Studios Limited, in collaboration with the Public Relations & Publicity Officer, Eastern Region.

#### Prizes for North Eastern Region Stations.

—Over 300 stations in the North Eastern Region have been awarded prizes and certificates in the 1953 Annual Cleanliness and Tidiness competition. Bedale, Blaydon, Cloughton, Fyling Hall, Glaisdale, Gristhorpe, Morpeth, Ormesby, Pelaw, Reedsmouth, Wallingfen, and Whitby West Cliff obtained first class awards. Of the remainder, 41 stations received second class prizes, 140 third class, and 111 stations received certificates of commendation.

**Transport Levy.**—The Ministry of Transport & Civil Aviation has pointed out that the Transport Levy imposed by the Transport Act, 1953, becomes payable on and after January 1, 1954, and will be collected by local taxation offices at the same time as vehicle excise duty is paid; in consequence licences for goods vehicles and tractors cannot be renewed so long as the levy is in operation. Nearly 500,000 vehicles are affected by the levy, which applies, with certain exceptions, to goods vehicles over 1½ tons unladen weight, and also to general haulage tractors. The levy was imposed, the Ministry states, to provide a fund to meet certain costs and deficits arising from the disposal of the road haulage assets of the British Transport Commission; payment of the levy will cease when this purpose is fulfilled.

### Forthcoming Meetings

December 14 (*Mon.*).—Institute of Transport, at the Jarvis Hall (R.I.B.A.), 66, Portland Place, W.1, at 5.45 p.m. Henry Spurrier Memorial Lecture by Mr. Henry Spurrier.

December 15 (*Tue.*).—Institute of Transport, Essex Group, at the Shire Hall, Chelmsford. Paper on "Cross-country travel by public services," by Mr. A. E. Wallis.

December 16 (*Wed.*).—Permanent Way Institution, at the British Transport Commission Headquarters, 222, Marylebone Road, London, N.W.1, at 5.45 p.m. Illustrated paper on "Euston improvements," by Mr. A. Ridley, London Midland Region.

December 16 (*Wed.*).—British Railways, Southern Region, Lecture & Debating Society, at the Chapter House, St. Thomas Street, London Bridge, S.E.1, at 5.45 for 6 p.m. Debate, "That the employment of more women in responsible positions would be beneficial to British Railways." The debate is arranged in conjunction with British Railways, Western Region, London Lecture & Debating Society.

December 16 (*Wed.*).—Institution of Locomotive Engineers, at the Institution of Mechanical Engineers, Storey's Gate, London, S.W.1, at 5.30 p.m. Paper on "Some questions about the steam locomotive," by Professor W. A. Tuplin.

December 16 (*Wed.*).—Permanent Way Institution, Newcastle Section, at the Lecture Hall of the District Engineer's

Office, British Railways, Forth Banks, Newcastle-upon-Tyne, at 6.30 p.m. Annual general meeting, followed by brains trust.

December 17 (*Thu.*).—Institute of Transport, Liverpool Graduate & Student Society, at the Corporation Transport Offices, Liverpool, at 6.30 p.m. Paper on "The Railway Executive and the Transport Act, 1953," by Mr. D. S. Inman.

December 17 (*Thu.*).—Institute of Transport, South Wales & Monmouthshire Section, at High Street Station, Newport, at 7.15 p.m. Paper on "Some legal aspects of passenger transport," by Mr. G. S. M. Birch, Senior Solicitor Assistant, British Transport Commission.

December 17 (*Thu.*).—Institution of Railway Signal Engineers, at the Institution of Electrical Engineers, Savoy Place, Victoria Embankment, London,

W.C.2, at 6 p.m. Tea at 5.30 p.m. Paper on "Layout of signal cabins," by Mr. F. Horler, Past-President of the Institution.

December 18 (*Fri.*).—Institute of Transport, Tees-side Section, at the Cleveland Scientific & Technical Institution, Middlesbrough, at 7 p.m. Paper on "Transport and the iron and steel industry," by Mr. W. V. Golding, Transport Superintendent, Dorman Long & Co. Ltd.

December 18 (*Fri.*).—Institute of Traffic Administration, Merseyside Centre, at the Exchange Hotel, Tithebarn Street, Liverpool, at 7.45 p.m. Visit of President, Lord Merrivale, and the Chairman of the National Council.

December 19 (*Sat.*).—Stephenson Locomotive Society, Leeds Centre, at the Y.M.C.A., Albion Place, Leeds, at 2.30 p.m. Talk on "Southern secrets," by Mr. A. F. Cook.

## Railway Stock Market

Although holiday influences are already beginning to make for a decline of business in stock markets, there have been lively price movements, particularly in the industrial sections. British Funds were inclined to ease earlier in the week following publication of the terms of the £10,000,000 issue of 4 per cent New Zealand stock. The view now seems to have gained ground that a fresh reduction in the bank rate is unlikely during the next few months.

The Governor of the Bank of England has sent a request to insurance companies and the banks asking them to continue to observe the wish of the Chancellor of the Exchequer that restrictions should be placed on purely speculative transactions and pointing out that the latter must be regarded as including some types of company take-over bids which may have as their object the sale of freehold properties. The decisions will, of course, rest on the good sense of the insurance companies and banks. All transactions regarding the sale of freehold properties naturally have to be viewed from the business angle. Nevertheless the outcome of the Bank of England's request will be that it will be less easy in future for the purely speculative company take-over bid to yield a rapid profit.

There has been rather more business this week in foreign railway stocks. United of Havana were more active with the "A" and "B" loan stocks at 98½ on the news that they are to be repaid at par as soon as the necessary administrative arrangements have been completed. The junior stocks have been inclined to lose ground because of the interval which must elapse before they are paid off, though the second income stock at 41½ is estimated in the market to be about five points below its probable break-up value, and the consolidated stock probably has a break up value of a point over the current market price of 6½. The take-over deal has yielded more than at one time seemed likely, and the directors, particularly Mr. R. G. Mills, the Chairman, deserve the congratulations of all stockholders for their strenuous efforts over a long period in the face of many difficulties and sometimes unfair criticism as well.

Antofagasta ordinary and preference stocks have changed hands around 8½ and 42½ respectively. Manila Railway stocks kept steady with the "A" debentures at 85½ and the preference shares 9s. 1½d. Mexican Central "A" debentures rose

sharply to 81½, while in other directions, business around 5s. was recorded in San Paulo 6s. 8d. units.

Canadian Pacifics were 43 with the preference stock fractionally higher at 70½ and the 4 per cent debentures £85. White Pass no par shares were dealt in around \$27 and the convertible debentures were £97.

Chilean Northern 5 per cent debentures transferred up to 30 and Costa Rica 6½ per cent second debentures at 51½. Taltal shares marked around 14s. 4½d. and Nitrate Rails were 21s. 3d. There has been business around 39 in Guayaquil & Quito first gold bonds. Dorada ordinary stock changed hands around the lower level of 58½.

Among Indian stocks, Barsi at 125 continued to attract attention on estimates that the break-up value is probably well over the current market price.

Road transport shares have attracted rather more attention on suggestions in the market that some companies are likely to relax the very conservative dividend policy they have followed in the past. West Riding were 27s., Southdown 30s., Lancashire Transport 51s., while Ribbles Motors marked 37s., Potteries Motor Traction 25s. 6d. and Devon General 28s. B.E.T. deferred 5s. units remained an active market around 37s. in response to higher dividend estimates.

The engineering wage demand continued to have a restraining influence on many sections of stock markets. Vickers eased to 49s. 6d., John Brown to 34s. 3d., Babcock & Wilcox to 47s. 9d. and Tube Investments to 60s. Ruston & Hornsby were 40s. 9d., but T. W. Ward remained steady at 82s.

United Steel shares have been sold and at one time the discount increased to 1s., but is 8½d. at the time of writing. Selling has been by holders not wishing to take up the instalment of 10s. due next week (the shares are at present only 5s. paid). At their current price there is a yield of nearly 7½ per cent, which must be regarded as very attractive bearing in mind all factors. Nevertheless, it seems the shares are unlikely to go to a satisfactory premium until the final instalment of 10s. is paid next month.

Among shares of locomotive builders and engineers, Beyer Peacock were 29s., Charles Roberts 5s. shares 17s. 9d., Hurst Nelson 43s., Birmingham Carriage 30s. 7½d. and North British Locomotive 12s. 4½d. Vulcan Foundry were 23s. 3d. and Gloucester Wagon 10s. shares 16s.